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THE

VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

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EDITED BY

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JANUARY, 1877.

TOXIC EFFECTS OF CARBOLIC ACID.

BY E. DECROIX, PRINCIPAL VETERINARY SURGEON, FRENCH ARMY.

[Our distinguished colleague of the French army sends us the following interesting communication—the first, we believe, which has been forwarded for publication in an English veterinary journal by a Continental veterinarian—and at the same time congratulates Mr. Simcocks upon his courage in describing his misadventure with carbolic acid.]

In reading in the *Veterinary Journal*, for October, the account of an accident arising from the external employment of carbolic acid by Mr. Simcocks, it occurred to me that I had observed an analogous accident under the following circumstances. At the commencement of 1872, I had occasion to treat in my regiment many horses suffering from parasitic affections—particularly *pediculi;* and after trying various measures, I had recourse to lotions of liquid carbolic acid, in the proportion of 10 grammes to the litre of water. Not obtaining satisfactory results, the quantity of acid was doubled—20 grammes to the litre; but as even this did not appear to be sufficiently potent, the proportion of acid was raised to 50 grammes.

Nevertheless, I was astonished to find that many parasites

resisted this powerful lotion, so I tried 100 grammes to the litre —being 400 grammes to 4 litres of tepid water. This proportion did not dissolve in the water, however, but on being shaken it was suspended in it, and formed a kind of milky emulsion.

The dressing of one of the horses was commenced with this at 11.30 a.m. Towards 11.45 I noticed that the hand of the soldier who applied the lotion had its epidermis blanched, swollen, and wrinkled, like that of a washerwoman who has been engaged at the tub all day. Some minutes later I inquired of this man if he perceived any disagreeable sensation in his hand, and he said he felt a little prickling (*picottement*). I made him wash his hands with soft soap, then in alkalised water; and a sponge being attached to the end of a staff, the dressing of the horse was continued. Toward 12.30, when all the body of the latter had been well rubbed—with the hair and against the hair —except the limbs and the posterior part of the abdomen, which were left untouched, the dressing ceased, and the animal was allowed to be exposed to the sun. In about an hour a general trembling was manifest,—when the animal was well wisped. Notwithstanding this, however, the tremblings increased rapidly and the horse began to exhibit great anxiety. Seeing that it was about to fall, it was ordered to be taken into the nearest stable, about five or six yards' distant; but while it was being untied, it sprang backwards, its head-collar came off, it staggered for some steps, and was at last got into the stable.

There the anxiety and the general tremblings were greatly increased; all the body was shaking; the pawing was continual; the eyes were half-closed, and the lips agitated with a febrile movement like those of a horse in a fit of Rabies. The eyes blinked as they do when an animal comes suddenly out of darkness into a bright light; the agitation was so great that it was not possible to examine the pulse; and the creature was frightened when any one made sudden movements near it, and feared being approached. The respiration was hurried, anxious, shallow, and jerking; soon there appeared slight, flattened, and hard œdematous patches on the inner surface of the thighs, axillæ, and at the right flank; while the skin was thickened and had lost something of its suppleness.

By these alarming symptoms it was easy to recognise the existence of *cutaneous asphyxia*, due to the too energetic action of the carbolic acid lotion.

Vigorous wispings were again resorted to, then washing with water rendered slightly alkaline by liquid ammonia. A mash was partly eaten.

At 2.30 the animal lost its equilibrium, and fell on its right side, on the thick bed of litter which had been prepared for it. The agitation and trembling persisted, although they were less intense; the respirations were 54 per minute; the wings of the nostrils dilated so imperfectly, that an assistant had to keep them widely open; the limbs executed alternate automatic, but regular movements, as in walking or trotting; the mucous membranes were slightly injected; and there was a kind of comatose delirium. Blood was abstracted to the amount of from three to four kilogrammes; cold acidulated effusions were applied to the head and in the mouth; stimulating enemata were administered, and counter-irritants employed to the limbs.

It is worthy of remark: 1. That the blood "set" in an uniformly *red clot*, without any trace of separation into *white clot*; 2. That this homogeneous clot was firmer than the ordinary black clot—due, no doubt, to the fact that the fibrin was equally diffused throughout the mass.

The animal remained in nearly the same condition for five hours! Towards eight o'clock in the evening the urgent symptoms began to subside, and some gulps of water were swallowed. A little later the patient was able to rise and to eat. The next morning all the symptoms had disappeared, and there remained only a little hesitation in walking, and some excoriations from the *decubitus* and struggling.

There was no desquamation of the epidermis, or shedding of the hair; but the pediculi, as well as their ova, were all destroyed.

The conclusions to be drawn from this observation are that the liquid carbolic acid of commerce, diluted with ten times its weight of water, should not be employed over all the surface of the body at once; that it would be well to dilute it with twenty times its weight of water at least, and not dress the body generally with this lotion at once, but by halves, and allowing an

interval of a day: commencing, for instance, with the anterior half of the body, and leaving the posterior half until a day had elapsed.*

ON THE SAME.

BY THOMAS JAMES POULTON, M.R.C.V.S., MESSING KELVEDON.

THE perusal of Mr. T. S. H. Simcock's paper "On the Toxic Effects of Carbolic Acid," recorded in the October number of your very estimable journal, was attended with feelings of interest, from the fact that it is the only one which has appeared, as far as I know, in veterinary literature. The comparatively recent introduction of this drug into medical practice, and at one time the *furore*—if I may be allowed the expression—with which it was recommended, prevented any one speaking about it except in terms of eulogy; and it is only now, on the appearance of this (Mr. Simcock's) paper, that I hasten to record an incident which occurred years ago from its use, and which has led me, perhaps unjustly, to nearly discard it (carbolic acid) from my practice.

The facts of the case are these. On the 7th January, 1870, while professionally attending some stock, my attention was directed to some *ouvriers* engaged in dressing some sheep, when one of the owners came up and informed me that Scabies had broken out in the fold of last year's lambs (104), and they were trying some of the black fluid carbolic acid, which in their previous location had won a high place in their esteem. He informed me he had bought four gallons of it from his father-in-

* In the *Field* for November 18, 1876, in an article on the cure of Sheep-scab, the extraordinary statement is made that "carbolic acid has no poisonous effect, but its irritating action on the skin is so decided that small animals, as dogs and cats, have been killed almost instantaneously when dressed with strong solutions, and fatal accidents have now and then happened when sheep have been dipped in badly-made mixtures." We wonder if the writer had ever witnessed the action of carbolic acid, or if he understands the way in which it produces death. Our experience, and that of others, incontestably prove that its irritating action on the skin is very trifling, and that, through the skin, it is an active poison. The cases recently and now recorded in the *Veterinary Journal* are conclusive on this point. We trust the readers of the *Field* will not be misled by such statements.—ED. *V. J.*

law, a local chemist, who had previously instructed him to add twenty parts of water to one of acid (no mention of potass. carb.). He thought, as he wished to get rid of such a tiresome pest, that it would be as well to reduce it still more—one of acid to ten of water. The operation was continued without any protest on my part, as prior to that period I had had no experience of its action.

The next morning, at eight a.m., I was hurriedly summoned to the flock; the man saying that unless I made haste one-half would succumb to the toxic effects of the drug. On arrival, two were found dead, one was *in articulo mortis*, from twenty to thirty were so evidently affected that death seemed the only result that could occur; whilst, with the exception of some five or six, the rest were more or less affected.

It would perhaps be as well for me, in giving the symptoms, to describe them as they were manifested in a sheep in an advanced stage; and modifications to a less degree will be sufficient for the rest. The circulation was oppressed; breathing hurried, laboured, and stertorous; ptyalism from both nose and mouth; back crouched; legs wide apart; slight coma, with a drunken, staggering gait; if the hand was placed on the back, the animal crouched still closer to the ground; surface of the skin on back hot and swollen, with deep fissures from two to three inches apart; the urine and alvine secretions scanty and high-coloured, and seldom voided, as the animal was unable to make use of the legs, muscles of the back, and abdominal muscles in their expulsion, unless attended with great pain; the mucous membranes highly injected; lachrymation; and the extremities hot.

Before attempting treatment, my attention was next directed to the cadaveric lesions present; though, as will readily be understood, they were but hurriedly and imperfectly noted. The mucous membrane of the stomach of one was highly injected, while the other was not quite so much so; but yet sufficient to indicate the presence of active inflammatory action. The intestines were nearly blanched, and in places were slightly contracted by spasm (Colic). This pallor extended to the other abdominal viscera, with the exception of the kidneys and the psoas muscles and fascia, which bore traces of inflammatory action. The larynx, trachea, and bronchial tubes were obstructed by a

whitish frothy mucus; their mucous surfaces were highly reddened; whilst interlobular emphysema existed in the lungs, which were also filled with a black fluid blood, showing alteration of that fluid from the action of the poison. Underneath the skin of the back, this inflammatory action was present, not only in the subcutaneous areolar tissue, but also in the muscles of the region. There was likewise effusion on the brain, with hyperæmia of the bloodvessels of that organ; this hyperæmia extended to the spinal cord. Such were the *post-mortem* appearances observed.

My attention was next directed to the treatment to be had recourse to. To those which were not in an advanced stage of poisoning, I gave an aperient, and ordered the back to be well soused with cold water. To those which were considerably affected, I ordered an ammoniacal stimulant, combined with a strong cathartic; the back of these was also to be well soused with cold water, after which a little oil was to be poured over the surface. This was the only treatment adopted; and though some may think it very simple, yet it gave plenty of occupation. I will not burden you with any lengthened details; suffice it to say that in a day or two all recovered, with the exception of the one *in articulo mortis*, and another which died of asphyxia, caused by some of the medicine passing into the trachea whilst the owner was in the act of administering it.

Unquestionably, the animals were poisoned by absorption of the carbolic acid by the skin, as in Mr. Simcock's case. It is perhaps right that we should faithfully report such occurrences, and leave them on record, as instances of thoughtlessness or ignorance on the part of the owners in using fashionable remedies, the effects of which they know little or nothing of. There is a fashion in everything—even in medicine; and it would be well, before we divest ourselves of our old habiliments, to be sure that we have donned others which will fit and wear better than they.

FŒTAL DYSTOKIA.—COMPLICATED HYDROCEPHALUS.

BY A. E. MACGILLIVRAY, V.S., BANFF, N.B.

RATHER a curious case of the above description lately happened in my practice. Having occasion to call at a farm some six miles away, when about to leave, the farmer's wife asked me to look at a cow which had been showing symptoms of calving for some hours, the *waters* having escaped, etc.

On entering the cowhouse, I found parturition further advanced than I expected, for a pair of feet were protruding from the vulva. Observing that the soles of the two feet were shown uppermost, I immediately said that it was a hind-leg presentation, or something worse. It proved to be a hind-quarter presentation (the *position lombo-sacrée* of Saint-Cyr), and very slight traction sufficed to bring away the fœtus as far as the fore-quarters, but there it came to a complete standstill. I introduced my arm into the passage, expecting to find a fore-leg turned back (so to speak), and jamming up the pelvis; but could discover no such or any other obstacle—my hand slipping quite easily all round the body of the fœtus. I now attached cords to the hind-legs above the fetlocks, and with the assistance of five or six people drew away a living fœtus. The cranium was of an immense size, and precisely similar in shape to the illustration given at page 403 of Saint-Cyr's "Veterinary Obstetrics."

But what rendered the extraction of the fœtus so difficult, and the case so uncommon, interesting, and complicated, was the fact that one of the fore-legs passed right over the top of the enlarged cranium (from occiput to muzzle), and was, in fact, partially imbedded in a groove during its whole course along the abnormally large fœtal cranium. This mal-positioned leg must have been there for months, as the bones of the cranium were quite firm and unyielding; and the erratic leg persisted in keeping its *cranial* position even after delivery.

This mal-postured fœtal monster remained alive for a few minutes only; which the farmer's wife thought a very lucky circumstance, as she was just asking me to *make away with it* when it *went away* of itself!

LARYNGITIS, ACCOMPANIED BY RHEUMATIC INFLAMMATION OF THE JOINTS.

BY ALEXANDER LAWSON, M.R.C.V.S., MANCHESTER.

JULY 9th.—A man called at our establishment, and asked for some blister for a horse's throat, and a bottle of cough gargle, which were supplied.

13th.—This day I was asked to see the animal for which the above had been given. The horse belonged to a widow lady living a few miles out of town; and on my arrival there I was told that he was not feeding, and had still the appearance of a cold upon him. I found the usual symptoms of Catarrh, accompanied by great difficulty in swallowing; but the pulse was natural, the mucous membranes not at all injected, breathing tranquil, no swelling of the extremities, nor anything to denote other complications beyond those already stated. In consequence of the extreme difficulty in deglutition, I thought it advisable to re-blister the throat and glands, which had only been partially done by the coachman; and left a little belladonna gargle, a gulp of which was to be given occasionally. I promised to pay another visit early next morning.

14th.—I found the patient much worse: the act of deglutition was performed with difficulty, the pulse was accelerated, and there was a free discharge from the nostrils; the mucous membranes were highly injected, and the breathing was difficult. Continued warm water fomentations to the frontal sinuses and the laryngeal box; varied, for an hour, with a warm linseed poultice to the latter.

Midday.—As there was now some danger of suffocation, I returned at midday, to find the animal a little easier. Continued the same treatment until evening, when I was afraid I should have to perform the operation of tracheotomy, as breathing was accomplished with very great effort, and the noise made was distinctly heard fifty yards from the box door. However, after waiting some little time, I decided not to operate, but to continue the poultices to the throat and fomentations to the head all night; I also told the coachman to place some gruel before the horse occasionally, and to continue the gargle.

15th.—Pulse about 72, and very feeble. The throat was better; but the discharge from the nostrils was, if anything, worse, and continuous, with a peculiar fœtid odour. The breathing was a little easier. I now noticed a considerable swelling on *the left stifle* and both hind-fetlocks, accompanied by a great amount of pain, which was evinced by an alternate changing of the weight from one limb to another. The horse became so weak while I was present, that he fell, and was unable to rise. I immediately sent for slings, and got him comfortably placed in them. Recommended hot fomentations to the stifle and fetlocks, and kept on an ordinary cold swab round both feet. In the evening I returned, and found *the right stifle* affected, the other being considerably improved. Horse still unable to stand without the assistance of the slings. The throat being much better, he was able to drink a little gruel and eat some warm bran mash. The discharge from the nostrils was less, and of a more healthy character. Ordered the fomentations to be continued to the limbs only, keeping the cold swabs round the feet, and supporting him with stimulants—principally carbonate of ammonia and beer.

16th.—Pulse about the same—72. He seemed very much easier this morning, but still restless, in a good deal of pain, and could not stand without the slings. I began to be afraid of Fever in the feet. Ordered cold water and ice to his feet, giving him a diffusible stimulant—viz., beer and carbonate of ammonia, and a sedative—aconite.

17th.—The swelling of the joints began to subside, but the pain in the feet remained about the same. The breathing was occasionally a little accelerated. Treatment the same as yesterday.

18th to 21st.—The patient appeared much about the same, suffering considerably at times from his feet, although his throat seemed to have quite recovered, and his appetite was moderately good. The discharge from the head was now little or nothing; but he was greatly debilitated, as the result of all these complications.

22nd.—My client now began to be uneasy, thinking the animal would not recover; and her wish was that he might be shot.

However, I felt confident that if he were allowed time, and received plenty of good nursing and attention, he would ultimately recover. With this end in view I obtained permission to remove the horse to our infirmary.

23rd.—I had him conveyed thither in a float, placed him in slings in one of our boxes, and continued the same treatment for about a fortnight, when he became quite well. As he was covered with bruises, however, and almost as emaciated as a skeleton, I determined to give him a month at grass. When he came home he was much improved, but still hide-bound and poor ; and, to my horror, he had an enlarged submaxillary gland. I persevered, and applied a little iodine ointment to the affected part, and gave him exercise and good food. The enlargement disappeared, and the horse is now doing ordinary work.

[This case, besides its other interesting features, shows the utility of slings. Some veterinary surgeons seldom employ them ; but they are, in very many and varied cases of disease and injuries, necessary to save the life, or insure the cure, of the patient. This remark may seem almost superfluous ; but as some practitioners, either from a dislike to them, or the trouble attending them, or from having them of a bad pattern, rarely have recourse to them, this opportunity is taken of urging their *timely* and *judicious* employment.—Ed. *V. J.*]

DIAPHRAGMATIC HERNIA.

BY R. MOORE, M.R.C.V.S., SHEFFIELD.

This case came before me on the 3rd November, when I was requested—Mr. Cartledge being from home—to see a valuable cart-horse, rising eight years old. On arriving at the stable, I found the animal suffering from slight abdominal pain ; the pulse was a little accelerated, breathing and membranes natural ; he pawed a little with his fore-feet, rubbed his left shoulder against the wall, and frequently showed a desire to eat, as if to ease himself from pain, or to distract his attention from it.

I expected to overcome these symptoms easily; but, unfortunately, they became gradually more serious, notwithstanding large anodyne draughts and other general treatment.

The case promising to be tedious, and requiring constant attention, I had him removed to our infirmary—where, however, he continued to get worse. A striking symptom now became persistent: sitting on the haunches like a dog,—so much so, indeed, that it caused considerable abrasion of the parts thus brought in contact with the ground. The membranes became injected, the pulse, which had gradually risen, became fluttering, the breathing laborious; and that characteristic symptom could be seen in the expression of the animal, which told that the case threatened early dissolution.

The horse now suffering so intensely, and the case being considered hopeless, Mr. Cartledge, who had returned—diagnosing a small rupture in the diaphragm—ordered him to be destroyed. He was in pain for twenty-seven hours.

The *post-mortem* examination revealed patches of inflammation over the bowels generally; and, on removing them, I found that about two feet of one of the small intestines had passed through a perforation in the diaphragm, and had become strangulated and twisted,—the strangulated portion being quite black, and in a mortified condition. The aperture was about an inch and a quarter in diameter, with smooth rounded edges—not a recent rupture,—and was of a circular form. It was situated in the aponeurotic portion of the left leaflet of the diaphragm, near the left pillar, and a little inferior to the *Hiatus aorticus*.

So far as was known, the horse was quite healthy prior to the attack; although, from the appearance of the rupture, this must have been in existence for a length of time, and only needed some exciting cause to bring about a fatal termination.

LOODIANA FEVER.

BY STEPHEN KNOTT, M.R.C.V.S., ROYAL ARTILLERY.

HAVING noticed in the *Veterinary Journal* for February, that Loodiana Fever, or in other words *Malignant Typhoid Fever*,

had again shown itself amongst the horses of the 1st Madras Light Cavalry, stationed at Bowenpillay, Secunderabad, I beg to submit my experience of the disease during my service in India, in the belief that the following facts may prove of interest to those members of the profession who have never heard of it before.

This is a disease which has caused a great deal of inquiry and discussion amongst the Army Veterinary Surgeons in the Bengal Presidency, as there it is mostly seen. It first owed its origin to a station called Loodiana, in Bengal: hence it is commonly known by the name of "Loodiana Fever." In the Madras Presidency it usually appears in the late monsoon time, when the heavy rains set in, commencing from August and following months, up to November, and as late as February.

Predisposing Causes.—No one as yet has been able to assign the real cause of its origin; but those who have seen and studied the disease are of opinion there are several, the chief of which are —when stabled,—want of ventilation, over-crowding, and bad drainage, combined with bad grass and water. I am of opinion it is produced principally from wet and exposure, combined with atmospherical influences brought on by an excessive downpour of rain; for when the monsoon is unusually wet, the disease is most prevalent in its worst form, and nearly every case ends fatally. I have remarked that when the monsoon was not severe, the disease was milder in its appearance. At St. Thomas' Mount, Madras, the horses are picketed out in the open, in lines which are slightly sheltered by trees. There is no stable accommodation, except in the sick lines for patients; and it was here I saw most cases of Malignant Fever during my service in India. In 1870 it attacked the horses of one of the field batteries in a mild form, and there were no casualties. In the following year I remember an isolated case—which was, however, a very malignant one, as the horse died in three-quarters of an hour after being reported off his feed. The season of 1872 was very wet, and both the batteries at the station suffered severely: horses were found dead on their pickets in the morning, having been attacked with the malady during the night. No doubt death was accelerated by the severity of the heavy rains, which caused chills, and finally

internal congestion. In the monsoon time of 1868 the rains were very heavy, and the horses of the 16th Queen's Lancers and Artillery, stationed at Bangalore, suffered considerably from the ravages of this disease. The late Mr. Richardson, who then was veterinary surgeon to the Lancers, corresponded with Professor Simonds upon the subject; and, as far as my memory serves at the present time, Professor Simonds was of opinion it was due to the excessive crop of grass, which, owing to an unusually wet monsoon, had been very considerable that year.

Symptoms.—This disease assumes more than one form, and is in some cases more malignant than in others. I shall first notice the severe form:—The patient is found to be dull, off feed, with marked prostration; pulse quick and weak, varying from 80 to 90, and sometimes 100 per minute (in many cases, however, it is imperceptible), mouth and skin very hot, very quickened respiration; visible mucous membranes of a bilious tinge, and injected, sometimes with petechiæ upon them, similar to Purpura Hæmorrhagica; breath very fœtid and hot, throat sore and deglutition difficult; bowels, as a rule, constipated, fæces sometimes clay-coloured and covered with mucus, having the appearance of boiled vermicelli; and in some cases both colicky pains and Diarrhœa are present; there is great swelling of the head and neck, which in the greater number of cases extends down to the sternum, and consequently causes laborious breathing. These are the dangerous symptoms; and the animal usually drops down dead from suffocation. Sometimes from the eyes and nostrils a yellow discharge exudes, which has the appearance of thickened serum. In some cases, prior to death the animal becomes mad, rushes round its stall and makes attempts to jump out, and finally drops down dead,—a proof that the brain is affected.

Milder Form.—All the symptoms of fever are present; but not the severe throat symptoms and swelling of the head and neck, as in the other cases: these, however, often run into the severe type.

Sanitary Measures.—Before speaking of treatment I shall name the sanitary precautions which are generally adopted.

The first thing done is to move the healthy horses away from those lines in which the disease first showed itself, and have them picketed at some distance—say a mile and a half or two miles—on some open plain, under the shelter of trees, if that shelter can be procured, and on elevated ground, so as to have better air and be kept dry in case of rain. Secondly, the troop lines are picked up and the old earth carted away. Disinfectants, such as McDougall's disinfecting powder, chloride of lime, and carbolic acid, are freely used. The earth on the floor of the sick lines is picked up and removed also, the walls of the boxes are scraped and newly whitewashed, and the whole thoroughly disinfected.

Treatment.—In the severe form of the disease treatment is of very little avail. The throat symptoms are so severe that the patient generally drops of suffocation; besides which, the action of the heart is so weak that it cannot send the blood through the lungs, and prostration is the result. In these cases tracheotomy is performed, and powerful stimulants given, to try and rouse vitality. The animal, however, generally succumbs to the disease, owing to the virulence of the throat symptoms and its utter prostration. Turpentine and mustard are applied to the throat and down the course of the trachea, in the form of counter-irritants; and also flannels which have been dipped in hot water are wrung out and applied over the turpentine. It is most essential that there should be plenty of fresh air. For nourishment, give gruel, etc., and a liberal supply of fresh water, because the patients suffer from extreme thirst, and, as a rule, will refuse everything but water. Milder cases require urgent treatment at the commencement of the disease. Should there be any or the slightest throat symptoms, counter-irritation should be employed. Calomel in small doses, given twice daily, in conjunction with James's Powder (*Pulvis Jacobi*), I have known do a great deal of good in allaying fever. In cases where there is extreme heat of the mouth, and dry tongue, ʒj of the former to ʒij of the latter, mixed with a little sugar and a few drops of water, so as to form a paste, and placed on the patient's tongue with a spatula, is a safe way of giving it. Great benefit has been derived from the use of James's Powders;

though I believe there are many veterinary practitioners who consider it inert as a therapeutic agent for the horse. In the meantime, the common fever medicine should be given during the day—viz., Liquor ammonia acetatis, Spts. ether nitrosi, with small doses of Antim. potass. tart., and camphor: this given in a draught, and repeated every four hours, if necessary. If the pulse will warrant any extra sedative, Ext. conii added to the fever medicine will be found beneficial, as it soothes any irritability of the heart. As a rule, however, the animal is so weak that the system will not allow of any sedative whatever; although very small doses of Antim. potass. tart. assist to check fever and bring about action of the skin and kidneys. The bowels are generally constipated and filled with mucus; enemas will be found of great service in promoting action of the intestines, bringing away filthy fæces, and dispelling fœtor. Great thirst is always present; and it is advisable to keep a bucket of water in the stall, to which some nitrate of potash has been added, as this will make a very good febrifuge. Light clothing is of service, but not if the weather is close and "muggy"; if at all chilly, clothing is of course necessary, to promote surface circulation and assist diaphoresis. The most important part of the treatment is the nursing, which has to be depended upon more than the medicine; and as the patient refuses almost every kind of nourishment, it is often troublesome to know how best to support life. Small quantities of fresh grass should be given occasionally—which, being a nice succulent food, is very enticing to a sick horse. Moreover, sick horses will often take this when they will not touch anything else, provided it is green and juicy. Oatmeal made into gruel ought to be given also, if procurable. In India, however, it is expensive, and is generally substituted by a farinaceous millet called "soojie," which is equally supporting, and makes good gruel. Sponging the mouth and nostrils with fresh water occasionally assists in refreshing the patient. When convalescent, and the system is weak from disease, tonics judiciously given will do a great deal of good. Give quinine and sulphate of iron in the feeds twice daily, or in a pint of beer or porter, in cases which require stimulating. Attend to the diet and state of bowels.

Post-mortem appearances.—On cutting through the skin between the submaxillary space, and down as far as the anterior part of the sternum, you find deposited between the muscles of the neck clots of yellow gelatinous effusion, which has the appearance of fibrine and serum. Black blood also exudes through the different tissues. The submaxillary parotid glands are gorged with black blood; the lining mucous membrane of the pharynx and larynx is in a high state of inflammation,—the same with the trachea,—and, as a rule, choked up with a frothy mucous secretion which extends into the bronchial tubes; lungs in patches of inflammation and gangrene; pleuræ covered with ecchymosed spots, and particularly the costal portion; pericardium filled with serum; right and left ventricle of the heart thickened. On the bicuspid and tricuspid valves, ecchymoses are seen, varying from the size of a fourpenny-piece to that of a sixpence.

Stomach.—Mucous surface of an inflamed plum-coloured tinge, with patches of ulceration on different parts; small intestines same appearance. Cæcum and colon have a deeper plum-coloured tinge, and assume more of the gangrenous appearance; spots of ulceration also appear on different parts, and ulcers are sometimes found to have penetrated through into the abdominal cavity; rectum slightly inflamed, but in cases in which a horse, having recovered from a first, has succumbed to a second attack of fever, I have seen great ulceration, and abscesses bursting through on the external surface. Liver sometimes pale, and at other times congested; spleen dark in colour and enlarged, having a lumpy surface, from which blood as black as ink escapes when cut into; kidneys sometimes congested or ecchymosed; bladder very little wrong in appearance; mesenteric glands black in colour and gorged with blood; and between the folds of the mesentery the yellow gelatinous effusion is found, the same as between the submaxillary spaces and neck.

I have described the foregoing from notes I took at the time.

Class of Horse affected, as to Condition and Caste.—Sometimes the disease carries off the finest and youngest horses in a

battery, and those that are in the best condition ; at others, only those which are low in condition and aged.

Caste.—From experience I have found that, generally, the majority of cases occurred amongst the Australians—especially those which are underbred. I have, however, known as many Persians suffer from the disease as either the Colonial horses or other breeds of the country.

As to its being Contagious and Infectious.—Many veterinary surgeons consider that it is not infectious, whilst others are of opinion that it is. I am inclined to believe that it is highly infectious. In support of this assertion, I shall give a few instances which I well remember. A healthy colt was in a stall next to that in which was a horse suffering from Malignant Fever, and in the course of a few hours the colt was taken ill with the disease. Of two horses which were picketed side by side, one was taken ill one day, and its companion was seized a few hours afterwards. Again, of the centre lead of one of the gun teams, which worked side by side on the march, one was taken ill and died ; the other suffered and died also very shortly afterwards—possibly communicated by the breath.

Precautionary Measures.—Horses which have suffered from the disease, and are recovering and becoming convalescent, should be removed* from the "sick lines," and picketed under trees where they can get fresh air. If chilly at night, they ought to be clothed, and the legs bandaged.

During the heavy rains in the epizöoty of 1872, horses were admitted to the "sick lines" with continuous rigour. They were almost pulseless, bodies very cold, no animation about them, and were with great difficulty got to the "lines." I administered ℥iv. of brandy with ʒss. of quinine in it, diluted with a sufficient quantity of water ; and continued giving similar doses, but smaller in quantity, every four hours. I also had them clothed, and warm gruel given. I found this treatment answered, and the shivering fits were stopped. If fever came on

* My reason for having the horses removed from the sick lines, was owing to the fact that other horses would be coming in with the disease; and I considered it a good plan to remove them, otherwise they might have taken the disease again from the newly-admitted cases.

afterwards, they were treated as before stated, and fever medicine given.

I am inclined to believe this disease is more analogous to Cattle Plague than any I know of.

In conclusion, I may state that the exciting causes are, when stabled :—

Want of ventilation,
Over-crowding,
Bad drainage,
Bad grass and water,
Moisture, and exposure to inclement weather.

As regards the bad water, there can be no doubt that in the rains both animal and vegetable decaying matter is washed into the wells, causing it to become impure.

A CORROBORATION OF M. LECELLIER'S "OBSERVATIONS ON AN INTERDENTAL SPACE AND ITS EFFECTS."

BY A. G. ROLLS, M.R.C.V.S., ARUNDEL.

THIS essay was sent to the Competition of 1874, under the head of "Therapeutics and Surgery," and examined by the following Committee : MM. Trasbot, Weber, and Bouley. It was sketched as follows by M. Weber, in his report to the Société Centrale de Médecine Vétérinaire, at its meeting on October 28th, 1875 :—

"An Essay on an Interdental Space, with the motto 'Seeing not Observing.' Author, M. Lecellier, veterinary surgeon, Yvetot, Seine-Inférieure."

"The object is to draw attention to an abnormal anatomical peculiarity, which becomes a serious pathological condition—viz., a space between two of the molar teeth, in one or other of the jaws, but ninety-nine times in a hundred in the lower jaw. In consequence of this space the alimentary matters accumulate between the two teeth; then is observed the putrid fermentation of these matters; the irritation they cause the gum by their pressure and putridity; the difficulty of mastication

which results; the loss of condition of the young animals; the accompanying diarrhœa; its prejudicial effect on rearing stock, etc."

Such is the series of evils which an interdental space can cause. There are two varieties; it may be present between the temporary molars: "Not being firmly fixed, the slight motion of the temporary molars is often the cause, and sometimes long before their fall, of small interdental spaces, either between themselves or between them and the first permanent molar. But this accident is of no consequence unless of long duration. The fall of the temporary molars causes it at once to disappear. *Sublata causa tollitur effectus*, says the author."

The interdental space between the temporary molars becomes much more serious, if it happens some time before their being shed; for then it impedes mastication, and prevents the foal from well nourishing itself, and at a period when a sufficient diet is the chief condition of its regular growth.

The space between the permanent teeth is a very serious accident. To give an idea of it, the author, modifying the proverb, says that one may apply to the teeth what is said of the foot—"*No foot, no horse!*" It is thus, he says, with the teeth; and, in fact, at whatever age you consider the horse, no one can contradict this assertion—the perfect action of the dental grindstones being a necessary condition for the food to be assimilated and produce strength by its transformation.

Here is substantially the author's description of the abnormal state to which he wishes to draw attention: "The six molar teeth ought to be level on their grinding and on their lateral surfaces. They ought, further, to touch very closely, from the gums to their table surface."

The anomaly commences when there is a space between them: "An interval may exist without irregularity in the dental range; but more often there is deviation of a molar, either outwards or inwards—the last being the most frequent. There may be a space before and behind the same tooth. . . . Nearly invariably, the space exists in a similar position in both rows of teeth in the same jaw; that is to say, the anomaly is symmetrical; it is much more frequent, however, in the lower than the upper jaw, in the proportion of 100 to 1. . . . . Ordinarily

the space exists between the fourth and fifth molars, or between the latter and the sixth. . . . . The space which only measures one to two millimétres at the table surface, may attain the width of one centimétre or more near the alveoli. It is possible to introduce the little finger into it. . . . . The gums, always painful, bleed at the slightest touch, especially if the superior border of the alveoli have been injured by the accumulated food. In this case there is a strong odour of caries from the mouth."

The general symptoms express loss of condition, caused by imperfect mastication.

This symptomatic exposition is preceded by interesting details on the eruption of the molar teeth,—details which are important in forming a diagnosis of the anomaly: "When I first met with the anomaly, more than thirty years since," says the author, "in the jaws of a thirty months' colt, I thought it explained by the number of teeth. Finding but five in each row, I attributed the space to the absence of a tooth; I was then ignorant that at thirty months the horse has often but five molars."

How are we to remedy this dental anomaly, which becomes a serious pathological condition? There is only one method—that is, to enlarge the dental space by drawing a tooth. The food is not retained in the enlarged space, and thus the consequences of its pressure and retention are avoided.

Here follows a description of the operation, which is not capable of analysis. It must suffice to say that the author has altered the forceps of Plasse, so as to give them more power; he has also altered the balling iron, so as to render it harmless to the bars; he uses a highly polished instrument, to keep the tongue down, and at the same time to show by reflection on its polished surface the back part of the mouth. But all these details should be read at length in the essay, in order to note the directions to follow when extracting a tooth,—an operation which increases in difficulty with the youth of an animal, in consequence of a greater length of fang being in the maxillary alveolus.

A series of twelve observations completes this essay. You

can judge, gentlemen, by this analysis, that the pathological fact to which the author directs attention is one which has not yet been noticed—at least, as far as we know. One may ask if its occurrence in the district where the author has observed it is not the consequence of some persisting hereditary influence, and if it may not disappear by a careful selection, for breeding purposes, of males and females exempt from this anomaly. It is well known that in the human being dental alterations are hereditary. So it may also be in the domestic animals. What leads us to think that the accident noticed in this work may be an accident confined to the district, and due to a local influence, is that nowhere else has it yet been mentioned. If it existed elsewhere with the same frequency which has enabled the author to amass so many observations, it must have attracted attention, from its seriousness.

"Seeing not observing," says the motto of the essay. No doubt an ironical remark, directed at those who, although the anomaly had come under their notice, have not thoroughly observed and understood it. Discovery consists in seeing what others have not seen. Now that attention has been directed to this dental anomaly, if it is general, observations will probably increase and be placed on record. To the author of this essay belongs the credit of having been the first to draw attention to this pathological condition, and to indicate its remedy.

The Committee proposed to present the author with a silver medal, and to publish his essay. At a subsequent meeting, M. Leblanc stated that he thought a silver medal not sufficient recompense for this essay. The disease described by the author, and caused by this dental defect, was unknown to the greater number of veterinarians; however, since the author drew attention to it, it has been frequently observed by his colleagues in the Seine-Inférieure. The note of the reporter also expressing a doubt as to the recompense, encourages M. Leblanc to ask that a gold medal shall be voted in place of the silver one. This was agreed to.

I have thought it worth while to bring this essay to the notice of English veterinarians, as no mention has been made

hitherto (so far as I am aware) in our literature of such a defect. It had not fallen under my notice before reading the essay; and I had quite forgotten the details and special features therein described, when, on the first of July last, I was requested to examine a five-year-old chesnut cart-horse, which had been thriving badly for some time—in fact, since his diet had been changed from hay and corn to green food. On seeing the animal, I found him very low in condition, and turned out in a small meadow, which was strewed in places with *quids*, the results of his attempts to eat grass. The foreman, in answer to my questions, said they had bred the horse, that he had not done very well when turned out, before being taken into work, but had since done better. On examining the mouth, what was my surprise to find that all the teeth were perfect and apparently regular, but that between the fourth and fifth molars on each side of the lower jaw a small space existed, which was crammed with food, and evidently the cause of the evil! M. Lecellier's essay occurred to to me; and noting the position of the irregularity, I referred to it on reaching home, and found that one of the most frequent of these cases had fallen under my notice—*i.e.*, a space between the fourth and fifth molar teeth in both rows of the lower jaw. So much annoyance did it occasion the animal, that he rejected three out of five mouthfuls of vetches I gave him.

The owner not being willing to subject the animal to the operation of extracting two teeth, I recommended an appropriate diet—chaff, crushed oats, bran, etc.—suppressing all long fodder. When last seen the animal had improved in condition, and has since then been disposed of to a dealer, in a considerably improved state.

FRACTURE OF THE NECK OF THE FEMUR IN A HORSE.

BY HARRY OLVER, M.R.C.V.S., TAMWORTH.

THE interesting report in your November number, by Mr. Naylor, of a "Fracture of the Neck of the Femur in a Horse," impels me to send you a few particulars of a similar case which

occurred in my practice some years since. I also send you the fractured bone, which you will see is almost exactly like Mr. Naylor's specimen; and should you think the second specimen would be acceptable to the Royal College of Veterinary Surgeons, I should be pleased to see it placed in the Museum, as also this report in the *Veterinary Journal*, if you can find space for it in your valuable publication.

The subject of the fracture, as in Mr. Naylor's case, was a very fine five-year-old cart-gelding.

On the 6th of November, 1873, I received a letter from Thorpe Hall, requesting my attendance on a lame horse. On my arrival there, I found my patient standing in the stable, with a cold water bandage on his fetlock, and received the following history of the lameness. It appeared that the horse, the day previously, had been sent for a load of coals in a cart. He did the journey safely, but when about to be turned around to back the cart into the coal-yard, he slipped with his hind-legs, but did not fall. He afterwards backed the coals in, but on going to the stable, was noticed to be slightly lame. They thought there was a little heat in the fetlock, so put on the cold water bandage I found the next day. On having the horse brought into the yard, he was only slightly lame; and, after examination, I gave an opinion that it was in the hip. I administered a dose of physic, and directed cold water to be continually applied to the quarter. In my examination I thought I could hear a little crepitus, but said, as I had some doubts on the matter, that I would see him again the next day. This I did, and confirmed my opinion of the first day—that a fracture had taken place; as, however, there had been several adverse opinions given by the employers, I decided to see him again before taking any active steps, and still adhered to my decision, but asked for a second opinion before the animal was slaughtered, which the owner had decided on from my opinion. Consequently, a second M.R.C.V.S. was called in. He agreed with me as to the seat of lameness, but was not satisfied that a fracture existed; consequently, acting on his advice, a cantharides blister was applied to the part, he was kept on mashes, etc., and put into a comfortable loose box. For some days he

appeared much the same, did not evince any signs of pain, except that he was lame when moved, and appeared to take an equal share of his weight when standing on the lame leg as the sound ones. On the 20th instant I received a message requesting me to attend again on that day; and, much to my surprise, I was informed, on my arrival, that I was sent for to make a *post-mortem* examination of the bay horse, the owner having directed him to be shot. I confess to feeling somewhat nervous, as I felt my reputation was at stake, especially as the "loose-breeched fraternity," as the late Professor Spooner called them, had made themselves particularly busy to show that I was undoubtedly wrong. Much, then, was my delight, on cutting into the acetabulum, to see blood flow out, and feel small portions of broken bone. On further dissection, the head of the femur was found to be completely fractured; and, although the horse had only lived a fortnight since the accident, the edges of the bones were worn quite smooth. In Mr. Naylor's case, from length of time, the bones and muscles of the quarter had become atrophied, and the animal was intensely lame and suffering much pain; but from his description I presume that, in the case which he describes, as well as in this one, the lameness at first was by no means severe, especially as the horse was put to work again. This slight lameness, as the result of the fracture of so important a bone, seems somewhat difficult to account for; but it must, I suppose, be owing to the powerful muscles attached to the trochanter major, and other parts of the bone, leaving the neck of the femur but little to do. The question then arises, How can a portion of bone so well protected by muscle become fractured? In both these cases the horses were only five years old. Could it be that the ossification of the neck had not become complete, and that the powerful muscles had actually torn the body of the bone away from the head, which would be firmly held by the *ligamentum teres?*

[This specimen is quite as interesting as Mr. Naylor's. It is now in the Museum of the Royal College of Veterinary Surgeons.—Ed. *V. J.*]

MAXILLARY FIBROUS TUMOUR IN A COW.

BY T. D. BROAD, M.R.C.V.S., BATH.

On November 10th, 1876, I was requested by letter to go a distance of five miles into the country, to examine a two-year-old shorthorn heifer, which was said to have an uncommon swelling at the back of her mouth.

On examination, I found a large tumour lying on the tongue, and extending to about half its length. I was informed that the animal had been observed to have some difficulty in swallowing for a year; but she had not been examined until the previous day, being then unable to ingest any solid food. She had become very poor in condition. Having provided myself with a casting rope, a sliding balling iron, a pair of bulldog forceps, and such other instruments as I thought it possible I might require, I cast the animal, and on examination found that the tumour was firmly attached to the gums at the last molar tooth on the lower jaw; but in consequence of its extending so far into the pharynx, I could not touch the end Fortunately, the front part was lobulated, enabling me to pass a ligature of strong tarred twine over a lobule; by pulling this and at the same time drawing out the tongue (round which a thin cloth was placed, to insure a firmer hold) as much as possible, I was enabled to get my fingers behind the end of the tumour, and by exercising traction on it and the ligature at the same time, it was drawn from its attachment without leaving a particle behind. It measured eight inches long, five wide, and three deep in the centre, and weighed fully two pounds, I have sent it for your inspection.*

The heifer ate a bucketful of sloppy food within an hour after the operation, and has continued to feed well.

* Professor Duguid examined the tumour. It was very dense and hard, and composed entirely of fibrous tissue, containing both white and yellow fibres. There was no membrane covering the surface—at least, none that could be dissected off. At the anterior part it was lobulated, as stated, and some of the lobules had been subjected to a good deal of friction. The surface was apparently being covered by layers of recent exudation, which were becoming organised. The blood-vessels were mostly small, and were not by any means numerous. The specimen should be classified as one of the ordinary non-malignant fibrous growths, showing nothing in its composition foreign to the tissue from which it had grown.—Ed. *V. J.*

PERICARDITIS IN A COW.—TYPHOID FEVER IN PIGS.—LAMENESS AND SLINGING.

BY THE SAME.

On September 30th, 1876, I was called to Messrs. Wyatt's farm, at Englishcombe, to see a two-year-old heifer of the shorthorn breed, which had not fed well for the last fortnight. On examination I found the pulse to be 75 and very weak, temperature 105·5°, and the respiration quickened, with an occasional cough. Auscultation satisfied me that she was suffering from disease of the heart, the sound of which I could scarcely hear. Having had a case of Pericarditis in a two-year-old heifer of a different breed at the same farm, in Oct., 1874, and which was reported in the *Veterinarian* for 1875, I told the owners that she was also suffering from a similar disease, and that I could not advise treatment. After keeping her for nearly a week, she was killed, and I made a *post-mortem* examination. The pericardium contained about eight quarts of horribly fœtid fluid.

On the 19th of the same month, I was called to the same farm to see some pigs about two months old, two of which were dead. On making a *post-mortem* examination I saw that the disease was Typhoid Fever, and was informed that not a pig had been brought on the farm for several months. There were about the place eight sows in farrow, and four sows having from eight to ten young ones each, as well as eight store pigs. I ordered them to be kept separate as much as possible, and to be carefully fed, and the places to be kept well disinfected. The four sows and all of their young ones, with one exception, died; two of the store pigs died; two others had the disease severely, and the others slightly, but all recovered, and no other case was observed. Having been asked to account for the disease occurring under the circumstances, I gave the opinion that it had been brought from the town, four miles distant, in the food; but the owner did not then think so,—though he has since told me that he believes it was conveyed, as the malady broke out a few days afterwards and killed ten pigs on another of their farms, five miles away; both lots of pigs having been supplied with food from a tank in town, where neighbouring pork-butchers were

allowed to throw their refuse. Some of these were not particular about buying pigs when suffering from Typhoid Fever.

I have often been called in consultation in cases of lameness, the result of injury to the ligamentous structures in connection with the sesamoid joints of the hind-legs of hunters, where the treatment has been protracted and more or less unsuccessful, and that mainly from the horse not having been able to rest the joint, as he would have done had he been placed in slings at the commencement of the treatment. Although horses often lie down a great deal when suffering from acute inflammation of these structures, they are very liable to increase it in their efforts to rise,—consequently the treatment is much more effectual and certain when slings are used; and the same remark also applies to the treatment of other acute and painful diseases of the feet and legs, especially the hind ones.

VETERINARY TOXICOLOGY.—ARSENICAL POISONING IN THE HORSE: SYMPTOMS AND POST-MORTEM APPEARANCES.

BY J. GERRARD, M.R.C.V.S., MARKET DEEPING, LINCOLNSHIRE.

It has long been known that arsenic, in its most common form of arsenious acid, is habitually administered to horses by grooms and horsekeepers, for the purpose of improving their coats and condition; and the fact that it is so much used by the farmer, as a protection of his crops from "*Bunt*" and other fungoid diseases, places it within the reach of his horsekeeper, who, not knowing the proper dose nor the poisonous nature of the drug, frequently commits himself, and makes sad havoc in his master's team.

I beg to record a case of this nature, firstly, because although such cases frequently occur, they are rarely recorded; secondly, because it may prove interesting to younger members of the profession by way of remembrance; and thirdly, because I think it may tend to throw some light on the physiology of digestion, as also that interesting pathological condition, Acute Gastritis.

A team of six powerful draught-horses, the property of Mr. Thurlby, Baston Hall, were discovered by their owner to refuse their food on coming home from drilling on the afternoon of Saturday, the 21st of October. They had been engaged in drilling wheat all the previous days of the week, and had been considered hard-wrought during that time, which, the owner thought, had probably something to do with their refusal of food; but their persistent disinclination to eat even clean corn, made him suspect something wrong. The horsekeeper, thinking that the medicine he had been giving them had something to do with the failure of their appetites, suggested to his master the probability that "they were affected from the 'dressing' among the wheat, as the wind had been blowing strongly, and probably some of it had found its way up their nostrils and in at their eyes;" and pretended that he was himself affected by it, in following the drill.

I saw them at eight p.m. of the 21st, when the following symptoms were present: Almost total refusal of food, extreme dulness of appearance, half-closed eyes, hanging down their heads or resting them on their mangers, when some of them would take a mouthful, give it a few munches, and relapse into somnolence again. The external temperature was normal, but the internal of several of them stood at 104° Fahr.; two of them only registered the normal temperature. Pulse in all of them increased in frequency—some more than others; and in those in which the pulsations were most numerous, weakness was most observable. The number per minute varied from 60 to 95; but was very unsteady in those having the high temperature, in which at times it was scarcely perceptible at the jaw, but was easily felt at the axilla. Respiration, in four of them, not affected, but in two slightly increased at intervals. Conjunctival membranes heightened in colour, and buccal membranes had a clammy, pasty feel, and in one of them continual flapping of the lips, producing a frothy mucus. No thirst was present; at least, none of them would drink on coming home from drill, although they had drunk their usual quantity in the morning previous to being fed, or before their food was offered them,—for it turned out that they did not eat anything before going to

work in the morning, and to divert suspicion the keeper had taken back all their morning meal to the heap of cut straw forming their chaff in the barn, and which was the means of detecting him, it having been moistened and mixed with the maize and oats in their mangers. One of them was purging very badly, and staled frequently, but no colicky pains at this time were present in any of them. Towards midnight this one began to be very uneasy, offering to lie down, breathing excited, pulse accelerated, clammy sweats broke out on some parts of the body, extremities became cold, internal temperature 105° Fahr., and her general appearance haggard and dejected; every symptom, in fact, of a speedy dissolution.

In addition to the usual iron, magnesia, milk and lard antidotes, which they all received, I gave this one chloral hydrate ʒij in solution, which had a most marked effect in allaying the irritability of the system, and even lowering the temperature, and with opiate injections so far relieved the urgent symptoms, for some hours, as to give hopes of recovery.

Towards noon of the 22nd, however, she suddenly became worse, notwithstanding repeated doses of the drug; and lingered on in great pain until the morning of the 23rd, when she died in extreme agony, straining, groaning, and at times convulsed.

I may remark, here, that there was no tympany, no throwing herself down, rolling on her back or rolling over, and sitting on her haunches, such as we generally find in bowel complaints of the horse; on the contrary, she lay down carefully, never attempted to roll, lay on her side, strained and groaned fearfully, and frequently voided fæces when down. She generally micturated when she got up—small quantities and very high colour, seemed to have great difficulty in maintaining the standing posture towards the close, and could scarcely get up when down, though this was attempted a good many times before the final fall.

There were no "eructations" or "antiperistalsis," generally present with an overloaded stomach, but the ocular evidences of an inflamed one, in the shape of violent, persistent pain, and extreme anxiety of expression, tumultuous action of the heart, with almost no pulsation at the jaw, extremities deathy cold, with clammy sweats on the neck, chest, and abdomen.

Victim No. 2 had not had such a large share of the poison, for although she refused food from the time of her being amiss, no urgent symptoms of the drug were perceived until the morning of the 23rd—a few hours before the death of the first one. Her eye dull, but not anxious; and but for the heightened temperature, quickened pulse, and disinclination to feed, no one could have observed anything wrong. She had been taken suddenly ill early in the morning of the 23rd, so that I was hurriedly summoned,—(and saw the finale of the previous one,)—as we had thought her out of danger. The usual antidotes had been administered in large quantities, with the addition of milk and gruel, etc., to support the strength and "*exercise their mechanical influence*," as set forth in Finlay Dun's "Veterinary Medicines," —but all to no purpose, for she lingered on, in great agony at times, for nearly thirty hours after, as she died about noon of the 24th. The greatest difficulty was experienced in getting medicine, or indeed anything, down this animal's œsophagus; and when her head was set at liberty it flowed out again, through the mouth and nose. I therefore administered, subcutaneously, six grains of morphia, three times, at intervals of two hours, without producing the slightest effect; so I resolved to let her die without further interference. The symptoms exhibited by her were almost precisely similar to the first one, with the exception of a persistent flapping of the lips, a quantity of frothy mucus flowing from them, and a regurgitation in the œsophagus, arising from the stomach being unable to receive the fluids that had been attempted to be poured into it. No attempts to vomit in either of them. She died about eight o'clock on the morning of the 24th, or about 120 hours after she had partaken of the poisoned provender.

Sectio Cadaveris (*one* hour after death).—Although a strong, well-conditioned five-year-old, the carcase was very much reduced by this five days' irritation. The voluminous belly of the Lincolnshire cart-horse had completely disappeared,—not only the contents, but the abdominal muscles were fearfully shrunken and contracted; indeed, the appearance was more like that of a racer or steeplechaser than a heavy cart-horse, with the exception of the legs, which maintained their bulk. The fat

of the body had a yellowish tinge, the blood everywhere dark and fluid; the intestines and their peritoneal tunic of a dark venous hue, while the lining membrane of the stomach was red and inflamed, and the mesenteric glands swollen.

The stomach was distended with solid food, notwithstanding the quantity of fluid that had been poured into it. The ingesta—what she had eaten five days previously—was very dry, and showed no tendency to decomposition or digestion, except the portions of it in contact with the mucous membrane, which were mixed up with a yellowish-white pasty lymph and mucus, evidently the effusion of the inflamed membrane. This condition was most apparent along the greater curvature; while on the lesser curvature the food was in a soft and more natural condition, as if the fluids administered during the disease had passed on through the pylorus without mixing with the bulk of the food in the stomach. This suggestion is strengthened by the fact that a good quantity of catechu in solution, and *tinct. opii*, was administered in the early part of the attack, with a view to controlling the excessive purging, and no trace of either was to be found except in the cæcum and colon.

The effect of the poison was most apparent on the villous coat, while the cuticular portion was almost unaffected. One fact connected with the latter is worthy of notice here. To it almost exclusively the larvæ of the bots adhere; but in this case the poison had completely effectuated their removal, for they were mixed with the ingesta, and the punctuated or partially perforated appearance of the cuticular coat, caused by the action of their hooks, contrasted beautifully with the swollen, inflamed and ulcerated condition of the villous portion.

The inflammation of this coat was of a fibrinous form, having on several parts a film of coagulable lymph, to which some of the particles of food adhered, and on being stripped off exposed the turgid, red, and in some small spots dusky brown, appearance of the membrane.

At the points where the colour was deepest small sloughs were apparent, which, when cleaned away, left a small irregular ulcer. This was most observable along the greater curvature; while towards the pylorus the membrane was much

thickened by extravasation of blood into the submucous tissue, but there was no ulceration. The extravasation was visible in the duodenum, and here and there throughout the small intestines ; but in the cæcum and colon the uniform blush of inflammation was visible on their membranes. The contents were very watery and dark-coloured, and in the rectum streaks of blood were seen. The kidneys were large, soft, and flabby, and contained a large quantity of blood. The bladder in both cases was empty of urine, and contracted. In both, it contained a quantity of fibrinous exudation, with strong vascular injection of the mucous lining, and with more or less thickening of the membrane in the vicinity of the neck and fundus. This condition of the bladder I am almost inclined to regard as pathognomonic of arsenical poisoning ; at least, when taken in connection with a highly inflamed state of the mucous membrane of the the stomach, and no knowledge of the cause thereof, it may be regarded as very strong evidence of such a condition.

The liver, in both cases, was large, being gorged with black fluid blood ; but no structural disease was observable. The lungs, in the one which died first, were emphysematous on the anterior and inferior borders, and congested in the body of the organs, with a large quantity of blood flowing from them when cut into.

The cavities of the heart in both were filled with dark fluid blood, which did not coagulate readily on exposure ; the liquor pericardii increased in quantity and of a darker hue.

The brains I did not examine.

In the stomach of the one which died first, and which had evidently got the largest share of the drug, the ulceration was more easily observed ; the inflammation was more extensive and had been most intense. Some of the arsenious acid was visible among the food in the stomach slightly moistened, and when exposed to the sun for a few hours was easily recognised. Its action on the mucous membrane of the bladder was well marked. The fibrinous inflammatory products were in larger quantity in both viscera than in the other mare's, and seemed to be in direct ratio to the amount of the poison or irritant applied. No approximation to the quantity adminis-

tered to each could be obtained, but we were left to conjecture from appearances and the quicker collapse of the one than the other.

Both stomachs were well filled with dry food, and no fluids scarcely, bloody or serous, were observable; the effusion from the inflamed surfaces was of a whitish-yellow colour and pasty consistence. The thickening of the membranes was only visible about the pylorus; on the other portion of the villous coat they had a spongy, fungoid appearance, which could not be well seen until the fibrinous layer or film was washed off; while the cuticular coat was quite normal, with the exception already mentioned of the perforated appearance caused by the attachment of the bots to it, and which, I think, may almost be regarded as a normal condition of the horse's stomach in this and more southern latitudes. I did not attempt any microscopical examination of the inflamed structures, or chemical tests to the fluids or secretions, as the evidences of arsenical action were only too apparent, and the keeper was obliged to admit his culpability in the matter.

The others gradually recovered, but suffered more or less for several days from the effects of the poison.

No one, I presume, will be prepared to deny that these were well-marked cases of Acute Gastritis, induced by arsenious acid, and which is seldom or ever induced but by chemical or mechanical agency, or at least rarely witnessed in what is known as idiopathy.

They presented symptoms and appearances so different from those recorded by Mr. Howard, in the July number of the *Veterinary Journal*, and by him regarded as diagnostic and pathognomonic of inflammation of the stomach of the horse, that I have narrated them thus fully, and as minutely as possible, to form, as it were, a basis for future reasoning on the subject.

I had intended, ere now, to have noticed some of the rather novel ideas in Mr. Howard's *brochure* on this subject; but press of business has hitherto prevented me from attempting an analysis of them, as they require rather more thought and exactitude than "Jottings at Random."

These cases seem to have been accidentally or providentially thrown in my way to assist my cogitations on this subject; and if you, sir, and the Fates are favourable, I shall endeavour to present them to your readers in an early number.

POISONING BY TOBACCO.

BY THE SAME.

MR. HOWARD'S case on this subject in your issue for November —cogent and unique—brings to my recollection, and induces me to record, a fatal case of poisoning by this agent; especially as it bears so closely on the subject of Gastritis in the horse.

It was one of those cases, so graphically described by Mr. Howard, in which the pretensions of the attendants of horses to doctor them are favoured by the impecuniosity of the owners. They are worthy of record, to show us the necessity and utility of attending to small things.

I was suddenly summoned, on the morning of the 30th of March, 1873, to attend a horse which had been ill from Colic all night, and, as the messenger expressed it, "*his guts were comin' oot.*" I reached the subject of this interesting condition as speedily as possible, and found him lying on the ground in a dying state, and about fifteen inches of the rectum protruding. It was much swollen, and the death-struggles made it impossible to attempt its return, or to administer anything; and he died within half an hour after my arrival.

I could learn nothing from the attendant or the owner to account for this sudden collapse. He was a middle-aged horse of good action and substance, had never been known to be unwell previous to this sudden attack, and there was no suspicion of anything of a poisonous nature having been administered, or which he could have partaken of in any way; and he had been at regular work up to this time.

I was at a loss how to account for such an unusual occurrence. I had seen at least one case of *prolapsus ani* from super-purgation, but all knowledge of any medicine being given was stoutly denied.

The subsequent examination revealed the fact of some ex-

tremely irritant substance having found its way into the stomach and induced an unmistakable case of Gastro-enteritis. The stomach was all but empty—the villous portion highly inflamed, thickened, and approaching a brownish-black colour. This colour was confined to one spot, about the size of a crown-piece, on the larger curvature, where it was shaded off towards the greater *cul-de-sac.* Towards the *antrum pylori* the mucous membrane had more of a normal hue; it was thickened, and covered with a viscid mucous secretion. No ulceration, but a pulpy, velvety appearance where the colour was deepest. The mucous membrane of the small intestines was highly congested, and the bloodvessels hyperæmic along the whole course of the mesentery. In the colon and cæcum, especially the former, effusion had taken place, but not so extensive as we usually find in Enteritis pure and simple.

My notes do not furnish me with the condition of the bladder, or any peculiarity of the other organs. I confined my inquiries to the cause of death, and I was able to say very decidedly that some drug had been given. To this the keeper replied, in the presence of the owner, that "he had given him nothing but two ounces of '*bacca*,' to kill the *bots*, and which he had given to horses scores of times." But the tobacco had not killed the bots, for they hung in clusters to the villous portion of the stomach; though it had undoubtedly been the means of causing the death of a valuable horse, worth to his owner at least fifty pounds sterling.

Whatever may be the explanation of these apparently contradictory facts and results,—whether in this or Mr. Howard's case any peculiar idiosyncrasy of constitution may have existed, or whether its being given, as in this case, on an empty stomach, when the drug would come in immediate contact with the mucous membrane and thus produce its toxic effect, I can scarcely undertake definitely to say; but I do not think, judging from recorded experiments, that two ounces of commercial tobacco can, under any circumstances, be given with impunity.

According to Hertwig, horses and oxen appeared unaffected by feeding on the fresh leaves; while it required six pounds of dried tobacco to cause death in a cow.

Orfila states that ʒiss of rappee introduced into a dog's stomach, the gullet being tied, killed the animal in nine hours; and ʒij applied to a wound killed another in an hour. Its action is very irregular, and would seem to depend on the manufacture of the substance and the peculiarities of animals.

THE DEVELOPMENT OF THE OVARY IN THE MARE.

BY AN AMERICAN STUDENT AT THE ROYAL VETERINARY SCHOOL, BERLIN.

(*Concluded from Vol.* iii., *p.* 447.)

THE changes appear mainly to depend upon the increased thickness of germ-plate, at the expense of the stroma. One is inclined to suppose that a sort of contraction is going on in the superior layers of the germ-plate. As after the filling up of a new-made wound, the walls contract and give rise to a slight depression which draws the adjoining parts (the skin) somewhat toward it in puckers; so the germ-plate, in contracting, thickening, and becoming smaller, externally constitutes a narrow groove, which draws the serosa and the apparatus attached to it (*ligamentum ovarii, fimbriæ ovarii*) towards its centrum, and forms the serosa into folds. That something like this takes place will be self-evident to those who have opportunities of making further observations. And the histological results also tend to prove the correctness of this supposition. The plate which was previously soft and rich in cells becomes at a later period thicker, and consists only of closely interlaced spindle cells. The opening in the middle of the germ-plate is at first small; then it becomes invisible; then again it appears quite perceptible; and once more it becomes small in extent. So far as I am aware, this manner of forming the groove or hilus is special, and peculiar to the horse species; for the ovaries in other animals retain the convexity of the free ovulation surface during life. Yet it would be interesting, and most instructive, to study

the ovarial development in those species most nearly related to the horse.

The development of the separate parts of the ovary follows, in general, the course delineated by Waldeyer. The formation of the furrows on the surface of the germ-plate continues also in the foal only until birth; from this period the germinal epithelium loses its importance. That part of the plate immediately under the epithelium becomes firmer and tougher. The formation of the ovum, and the separation of the follicle, begins early in the deepest layers of the germinal plate. As early as the tenth month of fœtal life such follicles are met with; and later they increase greatly in number; while sometimes the interfollicular tissue diminishes. With this numerical increase of the follicles, those lying deepest push more and more into the tissue of the germ-plate, and there they apparently receive the necessary conditions for their further development, and for the formation of the Graafian vesicles. While those follicles lying in the germ-plate grow slowly, those which have been pressed into the stroma grow rapidly. Isolated and mature Graafian vesicles were to be seen in the ovary of the fifty-one-days'-old foal. This complete development of the follicle only takes place in those situated deepest in the stroma. Not until the stroma has completely vanished, and the ovary has finished its changes of form, does a rapid development of the Graafian vesicles begin.

The physiological processes are the following. The rupture of the follicle and the development of the *corpus luteum* take place in this peculiarly-formed equine ovarium in a characteristic manner. On account of the covering of the sides of the ovarium by the folds of the serosa, the opening to the Graafian vesicle is closed in the direction of the abdominal cavity, and therefore the discharge of the ovum by this channel is impossible. Cicatrices, or *corpora lutea*, are never seen on the surface of the ovarium of the mare. The manner in which the *fimbriæ ovarii* are inserted also shows that ovulation cannot take place over the whole surface of the ovarium; for it would then be impossible for the fimbriæ to seize the ovum, and this would fall into the abdominal cavity. But extra-uterine fœtal development has never been

observed in the mare. The discharge of the ovum can therefore only take place through the groove, which is destitute of the serous covering that envelops the other parts of the ovary. Unfortunately, we seldom have an opportunity of witnessing the formation of the *corpora lutea* in this way; though Leisering has had the good fortune to see a well-developed *corpus luteum* projecting beyond the groove as a globular body. The reception of the ovum in the oviduct is assured by the manner of insertion of the *fimbriæ ovarii*.

The manner and the forces by which the follicles are impelled towards the groove are not known. Probably the connective tissue septa may press upon them, and force them along, as would appear to be indicated by the radiating course of these septa. Other influence is, however, necessary; and the increased size of the follicles, and atrophy of the septa towards the surface, may assist in this phenomenon. Pressure and traction seem necessary to bring the follicles to the groove; and these appear to be exerted by means of the organic muscular tissue situated in the stroma, and which permeates the whole substance of the ovary. The greatest effect seems, however, to be exerted by means of the radiating bundles of muscular fibres.

The further processes which contribute to the rupture of the follicle are mentioned by His, Luschka, Kölliker, Waldeyer, and others. The earlier development of the *corpus luteum* is derived from the *membrana granulosa* and the connective tissue layer of the follicular walls. We must suppose an analogous process must take place in the mare, in order to explain the formation of the *corpus luteum* towards the periphery of the ovary. This body offers no essential difference from that of other animals. In its structure it so much resembles the stroma, that it may be looked upon as a transitory condition of that substance. In addition, it may be said that the peculiar development of the ovary in the mare gives the key to certain and frequent pathological conditions. Among these we may include the frequent sterility of the mare; which may be due to the cicatrix-like closure of the groove in the serosa, which will render ovulation absolutely impossible. Such instances are by no means uncommon. The peculiar formation of the ovary also makes such

barrenness quite a possibility, as it affords an opportunity for mechanical obstruction of the opening. Cystic degeneration of the ovary is also not uncommon; indeed, such degeneration of a single follicle has been frequently observed, and these cysts generally lie under the serosa.

Only in this way is to be explained the fact of the follicles being situated at the periphery, and penetrating the muscular tissue, instead of being forced toward the groove; being thus pushed toward the periphery, they lie under the serosa (the internal impelling force being suspended), and form the cystoid degeneration alluded to.

IMPORTATION OF HORSES INTO INDIA.—Some information with regard to the importation of horses into India is given in the statement of the trade with that country for the year 1874-5, lately printed. It seems that 2548 horses, valued at £67,359, were imported into British India in that year, against 2661, valued at £70,758, in the previous year. There has thus been a small decrease; but this trade, it is stated, rises and falls without any great variation from year to year, though, on the whole, the tendency is to an increase both in the number and value of the horses imported. The largest proportion of the horses brought to India is of Australian origin, and the animals are mostly landed at Calcutta and Madras. These horses, commonly known in India as "walers," amounted during the year to 2072 in number, valued at £52,927, against 1943, valued at £49,230, in the year 1873-4, the number as well as the average value having thus slightly increased. In the number of horses imported from Australia there has not been much variation of late years, though the average value appears to have slightly declined. The recorded values, however, of all classes of free merchandise, both imported into and exported from India, must be accepted with great reserve. They have hitherto been, as a rule, accepted by the Customs authorities without question or examination; and experience proves that values thus recorded are frequently susceptible of large modification, many merchants not being very careful in regard to the figures they give to Customs officials for goods on which they have no duty to pay. The next largest importation of horses into India consists of what are called "Gulf Arabs," brought from the coast of the Persian Gulf mainly to Bombay. These amounted in the year 1874-5 to 458 in number, valued at £13,980, against 164, valued at £4,881, in the previous year—a considerable increase in the trade of that year as well as that of previous years. The rest of the imports of horses for 1874-5 is made up of ten from the United Kingdom, two from Mauritius, and six from other countries. The only important fluctuation in the trade is with the United Kingdom—the number of horses thence imported having fallen from 541, valued at £16,410, to ten, valued at £155, the lowest point reached for many years. The average value of each English horse imported is stated to have been little more than half what it was in 1873-4; but it is quite certain, *primâ facie*, that the recorded value must be rejected as untrustworthy when it shows each horse imported from England to be worth on arrival in India no more than £15 10s. Even the value returned in 1873-4 must have been below the truth.

Editorial.

A VETERINARY SCHOOL FOR AUSTRALIA.

We have frequently alluded to the great necessity there exists for a veterinary school in the antipodean section of the British Empire. The immense region which we designate Australia is essentially agricultural and pastoral, and as such bids fair to become one of the wealthiest parts of the world, and a centre for several other of our colonial possessions whose animal population is annually on the increase in numbers and value. We have often had to deplore the immense losses to which Australia has been exposed, by the invasion of exotic, or the wide-spread prevalence of indigenous, maladies among her stock; and there can be no hesitation in saying that she, like the mother country—and perhaps through the supineness and ignorance of the mother country—has suffered simply because veterinary science has had but little countenance given to it, and the empiric has found a congenial home. Veterinary surgeons are apparently few and far between, and of the sanitary inspectors of stock we believe there is not one who has studied veterinary medicine. The ravages made by preventable or curable diseases may therefore be imagined to be something very serious indeed; and these can only be controlled or suppressed by the direction, supervision, and skill of well-trained veterinarians, —educated in the country if possible, as they will obtain advantages which those taught in this part of the world cannot be expected to possess. In addition to this, dread of the introduction of contagious disorders among animals has given rise, among a few individuals, to a kind of panic which is, in several of its features, unreasonable, and has led to a total prohibition of importation—to a rabid kind of protection, in fact. This prohibition will undoubtedly re-act most injuriously upon the Colony, and to a great extent frustrate the objects of those who are so successfully endeavouring to improve the quality of stock. With a proper system of inspection and quarantine, and thoroughly trained veterinarians, there is no need for the severe and damaging measure which these alarmists have succeeded in imposing upon their country. No parallel can be drawn between England, as it was and is, and Australia at the present time. When Contagious Pleuro-pneumonia and Foot-and-mouth disease were imported into Britain—though they had existed for many years on the Continent—nothing was known of them, and they had obtained a firm and extensive footing before any attempt was made to check them; and even now suppressive measures are most defective, while the risk of danger from fresh instalments from abroad is scarcely diminished. Australia can now be in possession of all the information Europe affords with regard to contagious diseases; and she has, besides, the misfortunes and supineness of this country, as well as its faulty measures, to serve as a lesson for her guidance.

For these reasons we receive with much satisfaction the announcement that it is proposed to establish a veterinary school in Melbourne, the proposal having met with the approval of a number of influential

gentlemen of the colony. The proposer is Mr. Graham Mitchell, M.R.C.V.S., whose great experience in animal pathology in the southern hemisphere, his well-known abilities as an accomplished veterinarian, and the advantages he otherwise possesses through having kept himself *au courant* with the rapid strides recently made in veterinary science, eminently qualify him for undertaking such an arduous and responsible task. But in addition to these, Mr. Mitchell has other claims which should weigh heavily in his favour with the Colonists and the Colonial Government. It was entirely due to his skill and energy that the Colony was saved from an invasion of Foot-and-mouth disease, which the inspector, from his want of knowledge, could not recognise. This we glean from the Government Enquiry report which was published a few years ago.

The Colony is already wealthy; and if it wishes to keep its wealth undiminished, or to increase it—we might say largely—it cannot do better than institute a veterinary school on a good footing. While benefiting Australia in a very material sense by so doing, it will also be conferring a benefit on humanity, so far as animals are concerned, and will be directly promoting medical and agricultural science.

RABIES CANINA.

As we have so often and for so long a period pointed out, Rabies Canina is on the increase in this country; and, for all that is done to check it, it is likely to continue increasing and extending. There is what has been designated a "Veterinary Department" of the Privy Council; but, to judge from what it does, it appears to hybernate for eleven months and three weeks in the year. We certainly think the designation a mistake, as there is scarcely anything veterinary about this official recess. The Blue Book it issues contains nothing interesting or instructive to the veterinary profession—nor yet, we fear, to the general public; while, as for contagious diseases, Glanders was never, perhaps, so prevalent, Rabies is unnoticed, and altogether we don't appear to be any better off than we were before this mysterious department began to figure for so large an amount in the annual Estimates.

Certainly, so far as Glanders and Rabies are concerned, as the Irishman would say, "we are improving worse." Every year the latter scourge is becoming more serious; and we learn from the Registrar-General's report for 1874, that SIXTY-ONE HUMAN BEINGS perished from it in this country. We can scarcely doubt but that in 1875 and this year, the number will be greater. As for the destruction among valuable animals, we have no means of even guessing what this amounts to; but it must be considerable.

Scotland is now becoming as seriously invaded as England has been, and quite recently three people died of the disease in Glasgow in as many weeks. This very unusual mortality from such a terrible disorder appears to have caused a kind of panic, of which stray dogs were made the victims—for about twelve hundred were killed in that city in a very short time.

Veterinary surgeons cannot be too circumspect in handling dogs brought to them for examination, or they may pay the penalty with their life. We observe in the *Repertorium der Thierheilkunde*, of Stuttgart, just published, that Veterinary Surgeon Fischer, Frankfurt-on-the-Maine, has succumbed to the malady forty days after inoculation by a rabid dog.

The long and uncertain period of incubation of the disease is well exemplified in the case of a railway porter, who died not long ago of Rabies Canina in the Royal Free Hospital, London. He was bitten in January last by a wandering dog he had secured in a room, and which was observed soon after to be gnawing the rope with which he had tied it. It had also worried and eaten a cat. On opening the door it flew at him, and inflicted the wound, from the effects of which he perished more than *ten months* after.

In the *Veterinary Journal* (vol. iii., p. 48), we reported the recovery of a man in Berlin who manifested undoubted symptoms of Rabies—the result of a bite from a dog—the treatment being subcutaneous injections of woorara. In the *American Journal of Medical Sciences* for July, 1876, Dr. Watson, Surgeon to the Jersey City Charity, relates the case of a man suffering from what we dare scarcely doubt was Rabies, and who was evidently saved by the administration of strychnia and woorara. The patient had been bitten by a dog in November, 1875, this animal at the same time wounding four other persons, one of whom, a servant-maid, died of unmistakable Rabies in February—four days before this man became ill. The symptoms enumerated were undoubtedly those of Rabies, and at one time they were most urgent and distressing. There was a repugnance to drink cold water, but warm fluids were taken in considerable quantity.

It may be noted that a dread of water is not always present in man, and there are several instances on record in which it produced no uncomfortable sensation. Besides, a fear of fluids is sometimes witnessed in other affections very different to this. The term "Hydrophobia" is therefore inappropriate and misleading, and should be discarded by medical men. Its continuance can only be productive of evil, especially when applied to this disorder in animals. Rabid animals—by which we only mean those labouring under this contagious disease—are never afraid of water, but will eagerly drink it, and wade or swim in it voluntarily, so long as they are able. Whoever states to the contrary is ignorant of the malady, and is guilty of promulgating an unpardonable and pernicious fiction.*

The medical treatment of the patient we have referred to was based on the fact that Rabies and Tetanus belong to the same class of diseases, and the drugs used advantageously in the latter ought, therefore, to be beneficial in the former. The strychnia was given until it produced vomiting, and its influence on the disease was very marked; the woorara was substituted for it, and administered subcutaneously—with the effect, as it appeared, of curing the patient.

With regard to Rabies and Tetanus belonging to the same class of diseases, we are certainly of opinion that, so far as the dog or other animals are concerned, this *fact* is *not* a fact. In their etiology and symptomatology no two diseases could be more widely different, and there is nothing in their pathological anatomy which could be adduced to prove their analogy. Rabies is a contagious and virulent disorder; Tetanus is not: in Rabies there is no

* In "Rabies and Hydrophobia" we have given ample testimony to prove that dogs affected with this contagious disease never exhibit any repugnance to water. This is the evidence of every one acquainted with the malady, and the fact is insisted upon by those who have made the subject a life-study. For instance, Hertwig, of the Berlin Veterinary School, who enjoyed grand opportunities for observing the disease, writes: "Alle wuthkranke Hunde können Wasser und andere Flüssigkeiten sehen, lecken und saufen, und zwar in jeder Periode der Krankheit; manche suchen sogar das Wasser und lecken es mit grosser Begierde, andere zeigen nur wenig Durst, und einzelne lecken viel im Wasser, können dasselbe aber nicht gehörig hinabschlucken, weil die Zunge, der Rachen, oder auch der Schlund angeschwollene sind: aber wirklich wasserscheu ist durchaus kein toller Hund."—*Magazin für die gesammte Thierheilkunde*, 1874, p. 19.

muscular spasm, but, on the contrary, paralysis sometimes manifests itself at a very early stage : in Tetanus the intellectual faculties are unimpaired ; in Rabies, and particularly the "furious form," the cerebral functions are markedly disordered. The success of the treatment does not prove that the diseases belong to the same class, but merely shows that, as in so many other instances, the same medication may be effectively adopted in widely diverse disorders.

A very regretable feature in nearly all the cases of Rabies Canina reported as occurring in the human species, and even in animals, is that no mention is made as to the condition of the dogs which inflicted the inoculating wounds. This is a grave omission, and should be repaired whenever possible. One of the most important points remaining to be ascertained, with regard to the prevention or suppression of this terribly alarming complaint, is whether the bite of an apparently healthy dog will produce it. With certain facts before us, we dare not at present positively assert that the disease may not occur *spontaneously* (if we may use the term) in the dog, or that the bite of a dog which exhibits no symptoms of Rabies may yet produce it. It is for clinical observation to solve this and other questions pertaining to the scourge ; and we earnestly hope that the members of the veterinary profession will largely aid—as well they may—in such an important and essentially humane task.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD DECEMBER 8TH, 1876.

Present—Sir F. Fitzwygram, Bart., President, in the chair ; Professors Simonds, Pritchard, Brown ; Messrs. Batt, Collins, J. R. Cox, Dray, Duguid, Field, Fleming, Gowing, Harpley, Hunt, Moon, Moore, Naylor, Talbott, Withers, Woodger, and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the last quarterly and special meetings were read and confirmed.

Correspondence.

A letter from Mr. Cartwright, of Wolverhampton, regretting his inability to attend the present meeting.

The SECRETARY announced that the President had received from the Secretary of State for the Home Department, copies of licensed certificates granted under Act of Parliament to perform experiments on living animals.

A letter, dated October 10, was received from Mr. Powys, Secretary of the Royal Veterinary College, acknowledging receipt of copies of Education Scheme and of amended Bye-laws to be laid before the Governors at their next meeting.

Also another letter from Mr. Powys, enclosing copy of the amended regulations relating to students of the Royal Veterinary College.

Letter from Dr. Dunsmure, acknowledging receipt of Education Scheme, and relative to the new Bye-laws of the Board of Examiners prior to July next.

A letter from Professor Walley, wishing to be informed whether Mr. Gregory would be eligible for the minor examination in April next.

He was referred to the first paragraph of Mr. Loch's letter of July 27th

which was entered in the minute book. He had been rejected twice under the new system, and therefore he was eligible to come up once more.

A letter from Professor Simonds, stating that the Governors of the Royal Veterinary College were of opinion that the Examinations ought to begin on the 3rd or 4th of January next, instead of before Christmas.

A letter from Mr. Mayer, wishing to be informed when the Christmas Examinations were to be held, as he wished to make arrangements with the Cirencester Agricultural College.

He was informed of the wish of the Governors of the Royal Veterinary College.

Letters had been received from members of the Court of Examiners approving of five o'clock instead of six o'clock for the Examinations to commence.

Dr. BURDON SANDERSON said that it would be inconvenient to him, but he did not object if the others were agreeable.

The Court of Examiners was informed that, in consequence of the alteration in the Bye-laws, a new Board would be elected prior to July, 1877, and that the ensuing Examinations would be held in January, instead of before Christmas and notice given to the London and Scottish section of the Board of Examiners.

A letter from Professor Simonds, enclosing letter from Mr. Mead, surgeon, of Dublin, who was desirous of entering the Royal Veterinary College under the new Bye-laws; but he could not give Mr. Mead the information, not having a copy of the Bye-laws.

The Secretary stated that a copy of the Bye-laws had since been sent to Professor Simonds.

Also a second letter from Mr. Mead, stating that he was anxiously awaiting the result of his application to be admitted to the Royal Veterinary College under the new Bye-laws now under discussion.

At the request of the President, a copy of the Bye-laws was sent to Mr. Mead.

A letter from Mr. Daniel McLean, Glasgow, stating that he would be glad to act if re-elected an Examiner, and asking to be informed what the new Bye-laws were.

He was informed that the Bye-laws were under the discussion of the Council, and when settled the information would be duly sent. A copy of the Education Scheme was sent to him.

A letter from Mr. Mackenzie, Frank Street, Rochester, N.Y., asking for copies of certificates of Mr. E. Crundell and Mr. James A. Going, relative to their being members of the Royal College of Veterinary Surgeons, enclosing a post-office order to defray their expense.

A letter from Mr. Henry Bergh, Head Quarters of the Society for the Prevention of Cruelty to Animals, New York, asking for a copy of the Register, as there were many who were assuming the title who were not members of the Royal College of Veterinary Surgeons.

He was informed that the Register was out of print, and that a new edition would be issued in the spring of next year.

A letter from Mr. A. F. Florens, Port Louis, Mauritius, stating that he was threatened with an action at law for saying that Mr. C. A. Bradshaw was not a member of the Royal College of Veterinary Surgeons. The name, it was stated, was not in the Register dated 1866; but another copy was furnished to him in which Mr. Bradshaw's name appeared, dated 1873.

The following letter from Mr. Loch was read in reference to the scale of fees to veterinary surgeons in giving evidence in a court of law, in reply to an application made by the Lancashire Veterinary Medical Society;—

"8, Great George Street, Westminster, November 8, 1876.

"DEAR SIR FREDERICK,—I cannot make out that there is any scale of fees binding upon veterinary surgeons. I presume you mean for their professional charges. If they give evidence in a court of law they would be entitled to charge like other witnesses.

"I may add, what I suppose you know, that surgeons in general have a *legal right* to their fees—which are payments for services actually rendered.

(Signed) "W. A. LOCH."

The Secretary stated that Mr. Dacre had acknowledged the receipt of the letter, and the following reply was addressed to the President :—

"Altrincham, December 1, 1876.

"SIR,—I have the honour to place before you an extract from the minutes of the last meeting of the Lancashire Veterinary Medical Association.

"Mr. Alexander Lawson proposed that the Secretary be directed to write to the President of the Royal College of Veterinary Surgeons, informing him,—

"First, That Mr. W. A. Taylor did not communicate with Mr. Coates in an official capacity when asking for a copy of the New Charter.

"Secondly, That the Society was not satisfied with the explanation given by Mr. Coates of his alleged partiality.

"Thirdly, That the members of this Society respectfully ask for a further investigation of the matter. Mr. Howell seconded the motion, which was agreed to. (Signed) "WM. DACRE, *Hon. Sec.*"

In reply to this, the Secretary said that he had written to the President to the effect that he had no partiality at all in the matter, and that he had no authority, as stated in the minutes of the last meeting, to send any official document without the sanction of the Council. As regarded Mr. Taylor, he had no partiality in the case.

The PRESIDENT said it seemed to him that the question in this case was not whether Mr. Coates was right in supposing that Mr. Taylor acted as the agent of the Lancashire Society, but whether he really thought so. If he thought so, he was quite justified so far as his answer went. The only important point was the *bona fides* of Mr. Coates' answer : whether he was mistaken or not was immaterial. He proposed that an answer to that effect be sent.

Presentations to the Library.

A letter from Professor Law, Cornell University, Ithaca, in which he desired to present to the library of the Royal College of Veterinary Surgeons a copy of his work entitled "The Farmers' Veterinary Adviser;" also a pamphlet, entitled "Hereditary Entailments in Domestic Animals, and in the Human Family."

The SECRETARY also announced that Mr. Fleming had presented the third and fourth parts of his text-book on "Veterinary Obstetrics;" and that Mr. J. H. Steele had presented his work on "Outlines of Equine Anatomy."

On the motion of Mr. DRAY, seconded by Mr. MOORE, the three gentlemen were thanked for their presentations.

Presentations to the Museum.

The SECRETARY stated that Mr. Fleming had also presented to the Museum of the College a fractured femur from Mr. Olver ; three ancient Roman shoes ; specimens of shoes for frost, and implements for making them ; also a model foot of Hartmann's patent foot-pad.

Mr. FLEMING explained that the specimen of femur was sent by Mr. Olver, of Tamworth, through him.

Mr. DRAY moved, and Mr. MOORE seconded, a vote of thanks to Mr.

Fleming, which was carried unanimously; and a similar compliment was passed to Mr. Olver, on the motion of Professor SIMONDS, seconded by Mr. HUNT.

A letter was read from Mr. R. B. Paterson, Belle Vue, Dumfries, tendering his resignation as Examiner, in consequence of the unsatisfactory state of his health.

On the motion of Mr. DRAY, seconded by Mr. NAYLOR, the resignation was accepted; and the Secretary was instructed to write to Mr. Paterson expressing sympathy with him, and regretting the cause of his resignation.

Royal Agricultural Society's Prizes.

The SECRETARY stated that a letter had been received from Mr. Jenkins, Secretary of the above Society, wishing to be informed as to the steps taken by the Council in regard to the Examination for the Society's Medals and Prizes, which was arranged to take place in December next. A second letter had been received from Mr. Jenkins, in which the postponement of the Council Meeting was thought unfortunate, and asking whether steps could not at once be taken to inform qualified graduates of the prizes.

The SECRETARY stated that a reply had been sent to the effect that the candidates eligible for the prize were nine in number. Three had written to say that they would compete for the prizes; three had declined; and from three no replies had been received.

Professor SIMONDS suggested that the latter three gentlemen should be again written to, as their reply might have been delayed by a variety of circumstances.

In reply to Professor Simonds,

The SECRETARY stated that at present no time had been fixed for the examination. He had sent an extract from the Regulations of the Society's Prizes to each of the competitors.

Appointment of Examiners.

Mr. Mayer, Mr. Hunt, and Mr. Dan Gresswell of Louth were appointed Examiners, and, failing Mr. Gresswell, Mr. Lepper of Aylesbury.

After some conversation,

Professor SIMONDS suggested that the Council should prepare a scheme and submit it to the Examiners. He thought it would also be prudent not to hold the Examination at the College.

The PRESIDENT thought it was desirable that the period of the Examination should be fixed for a certain date. As regarded the farm or place at which the Examinations should be held, he would recommend the Examiners to settle where it would be two or three days beforehand, as it would add to the *bona fides* of the Examination not to know where it would take place. He would also move the appointment of a small Committee to draw up the rules and regulations for the guidance of the Examiners.

The President, Professor Simonds, Mr. Cox, and Mr. Duguid were then appointed members of the Committee.

Professor SIMONDS considered that Wednesday, Thursday and Friday in the first week in January should be appointed for the Examinations in Class B, and Saturday for the Agricultural Society's prizes; and that Class A commence in the following week.

Professor SIMONDS said that at the next Quarterly Meeting he would call the attention of the Council to the necessity of considering two of the bye-laws that had recently been passed: first, the bye-law which relates to the subjects upon which the students are to be examined at the First Examination; and the other bye-law which referred to the payment of fees for examination and re-examination.

The PRESIDENT said he thought he knew to what Professor Simonds alluded in the First Examination—namely, the writing of prescriptions. The object for which the Council inserted that was to encourage the students to educate themselves in writing and spelling. It was an easy way of finding out whether or not they were deficient on that particular point.

Professor SIMONDS said that this would necessitate all the students having a knowledge of the Latin grammar. It was a very wide question, and it would be found very difficult to educate the students in Pharmacy on the First Examination by the existing rule. It would be better, however, for the Council not to anticipate the discussion, so he would merely give notice at present of his intention to call the attention of the Council to the matter at the next Quarterly Meeting.

The report of the Fellowship Committee was then considered :—

"The Fellowship Committee, appointed by the Council to take into consideration the election of First Fellows, have to report that meetings were held Oct. 28th, Nov. 3rd, 10th, and 18th.

"There are 1016 members of the College on the Register who have been fifteen years and upwards in practice, and who are therefore eligible for the Degree. From these a careful selection has been made by the Committee, in accordance with the instructions drawn up the Council, and also with the provisions of the Supplemental Charter.

"The Committee selected a list of 75 members proposed for Fellows."

The Council then proceeded to consider the election of Fellows with closed doors. After the names had been completed,

Professor BROWN moved "That this Council do not take advantage of the powers given them by the clause in the Charter, and that they do not make any original Fellows."

The PRESIDENT seconded the motion ; which was put and lost.

The PRESIDENT then proposed that the Secretary be instructed to write to the several gentlemen nominated, apprising them of their nomination, and asking whether they wished to accept the Fellowship under certain conditions which were to be set forth. The discussion was further adjourned.

The SECRETARY informed the Treasurer that it would be necessary to draw cheques for Examination fees and Insurances at Christmas, and that the balance at the bankers' to the credit of the Royal College of Veterinary Surgeons was only £83 16*s.* 4*d.*

It was moved by the PRESIDENT and seconded by Mr. BATT, "That the Treasurer having represented that there are no funds to meet the liabilities, the Trustees be authorised to sell out £200 stock, and take steps to furnish him with money."

The motion was carried.

The Worshipful Company of Farriers.

Mr. FIELD said that the above Company was desirous that the Council should appoint three Examiners to co-operate with them in selecting candidates for their prizes. He had received a letter, dated Dec. 4th, from the Clerk of the Company, forwarding a copy of the Report of the Farriers' Committee on the prizes and the proposed advertisements relating thereto. The following were the regulations in connection with the three prizes offered by the Company :—

"1. 1st Prize—The Freedom of the Company, a Gold Medal, and £20.
2nd „ —A Silver Medal and £10.
3rd „ —A Bronze Medal and £5.

"These prizes to be awarded by Judges to be appointed by the Company, consisting of three Members of the Council of the Royal College of Veterinary Surgeons and three Assistants of the Court of Farriers.

"2. The first prize to be for the best Essay on the treatment, in health and disease, of Harness Horses for driving or draught purposes in London—*i.e.*, within a radius of seven miles of the Bank of England; competitors to be limited to M.R.C.V.S. and students of the Royal Veterinary College, and the essay not to exceed in length 160 lines of sixteen words in each line (the essays to be legibly written on one side only of half-sheets of blue foolscap paper, and each such half-sheet to be numbered consecutively and not to have more than two hundred words thereupon, and each line to be one inch apart from the preceding line); and the Company to have the right to print and publish the Prize Essay within twelve months from the Prize for the same being awarded, on the understanding that half of the nett profits are to be given to the author when realised.

"Each Essay to be addressed, prepaid, to the Clerk of the Company, at his Office, No. 35, Ely Place, Holborn, London, E.C., and to be sent in to him on or before the 31st day of January next; and the Judges to adjudicate upon the essays so sent in on or before the 28th day of February next.

"3. The second prize to be for the best and most economically made and useful set of (4) Shoes for Carriage Horses used in London, over Macadam, Stones, Asphalte, and Wood Roadways—regard being paid especially to slipperiness arising from damp, frost, snow, and heat.

"4. The third prize to be for a similar set of Shoes for Cart Horses used in London, over aforesaid roadways, and with like regard.

"5. The competitors for the second and third prizes to be either Army Farriers quartered in England, or actual working Farriers employed for not less than two years now last past at their own or some Master Farrier's Forge in London or Westminster, or within seven miles thereof, in the practical making of shoes for and shoeing of horses.

"6. The competition set of shoes to be and remain in each case the sole property of the Company, and unregistered and unpatented, and to be sent in by the competitors at their own expense to 224, Oxford Street, W. (addressed "Farriers' Company Prize," No.), two months before the day the prizes are to be awarded; and the Judges therefrom to select, by personal trial or otherwise, as they may deem expedient, six or some lesser number of sets of shoes in each case (for prizes 2 and 3), and the makers of such selected sets of shoes respectively to attend personally before the Judges, or some of them, on a day and at a place and time to be named by the said Judges, and then and there personally to make a set of shoes similar to the set sent in by them respectively, and the Judges when the shoes are so made —and if required have been tried—to award the prizes Nos. 2 and 3.

"7. The Company to have the right of withdrawing all or any of the prizes, if the Judges do not consider the essays or sets of shoes of the respective competitors for the same to be of sufficient merit.

"8. Intending competitors for the three prizes respectively to send in their correct names, addresses and occupations to the Clerk of the Company on or before the 18th day of December, 1876, and to pay therewith the following entrance fees, viz. :—

	£	*s.*	*d.*
"For prize No. 1	1	1	0
" " 2	0	5	0
" " 3	0	2	6

"The whole of the entrance fees will be appropriated for furthering the above objects, and no part thereof will be retained by the Company. To be

advertised in *The Times*, *Daily News*, *Standard*, *Daily Telegraph*, and *City Press*."

Mr. J. R. Cox, Mr. Batt and Mr. Fleming were appointed Examiners to co-operate with the Farriers' Company.

The Secretary stated that he had received a letter from the Veterinary Medical Society, thanking the Council for the use of the Board Room during the past year to October last, and asking for a continuance of the same. This was agreed to.

The proceedings then terminated.

CENTRAL VETERINARY MEDICAL SOCIETY.

THE ordinary monthly meeting of this society was held at Red Lion Square on Dec. 7th, Mr. W. Field, jun., President, in the chair.

The President exhibited a diseased kidney from a horse, and described the case. Mr. Fleming exhibited the following pathological specimens, and gave their history : 1. The heart of a foal affected with Endocarditis, chiefly on the right side, and involving the mitral and tricuspid valves ;* 2. Fracture of the neck of the femur ;* 3. Intussusception of more than a foot of intestine in a mastiff dog ; 4. Piece of bone extracted from the rectum of a dog ; 5. Concretion from the stomach of a sheep ; 6. Large mammary tumour removed from a bitch ; 7. False membranes coughed up from the bronchial tubes of an ox. Mr. Fleming also exhibited an invention for preventing horses from kicking in the stable ;† likewise devices for enabling horses to travel on ice and slippery roads: among them his own invention ; the "Hufbuffer" of Mr. Hartmann ; the shoe and plugs of M. Gerard, etc. With regard to Hartmann's foot-pad, the President expressed his approval of it after a trial of some months, though its expense was a serious consideration. Mr. Burrell remarked that they could not be fixed in a "knocked-up" shoe, and instead of curving the heels inwards, a rudimentary clip would suffice. Mr. Fleming showed, and commented upon, three Celtic or Roman horseshoes recently discovered at Oxford ; also a "Hipposandal" found at Springhead, near Gravesend.‡ Mr. Woodger, jun., exhibited a circular pad he had designed for the treatment and prevention of "capped elbow" ; this pad, fixed round the fetlock, raised the heel from contact with the elbow. Mr. Fleming suggested that his kicking-block might answer the same purpose. Mr. H. Withers adopted the plan of shortening the collar-rein on the opposite side. Mr. Roalfe Cox exhibited the specimen of aneurism of the posterior aorta recorded by him in the *Veterinary Journal* for September last. Mr. J. H. Steel presented a copy of his work "Outlines of Equine Anatomy." Mr. W. Mole, M.R.C.V.S., Golden Square, was proposed as a fellow.

Present, sixteen fellows and two visitors.

JAMES ROWE, JUN., *Hon Sec.*

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE last quarterly meeting for 1876 was held at the Queen's Hotel, Leeds, on Wednesday, the 25th October, the President (Mr. Charles Patterson) in the chair. The following members were also present—viz., Messrs. Naylor, Jos. Carter, Anderton, Cuthbert, Jos. Freeman, Ferguson, Scriven, W. G. Schofield, Spillman, Axe, W. G. Carter, Peter Walker, Fallding, and the Secretary.

* These cases will be published in the *Veterinary Journal*.

† This will also be described in the *Veterinary Journal*.

‡ These articles will be referred to in the *Veterinary Journal* for February.

Apologies for non-attendance were received from Messrs. James and John Freeman, Greaves, Edmundson, J. L. Faulkner, Schofield, jun., Murdoch, and Bale.

Mr. J. M. Axe, M.R.C.V.S., was unanimously elected a member of the Society.

Mr. GEORGE CARTER read an essay on Parturient Apoplexy, detailing the causes, symptoms, *post-mortem* appearances, and treatment of this formidable disease, with great minuteness.

Mr. NAYLOR objected to the term "Parturient Apoplexy," as he thought we had similar symptoms in other diseases; he was of opinion that the attack arose generally from indigestion, and had not seen much benefit derived from the use of slings.

Mr. ANDERTON said that after sensibility is restored, and the cow does not rise, the slings will often be found serviceable in enabling the patient to assume the upright position. He thought it very essential to give medicines with the probang, and to suspend the head from the rafter of the cowshed at about the natural height when the cow is at rest; also to turn her hourly, so as to assist in the expulsion of gas from the rumen. He considered that the use of depletive measures before parturition tended to prolong that act; he had occasionally seen congestion of the lungs present in these cases; cows are sometimes affected more than once with this disease.

Mr. JOS. FREEMAN advocated bleeding when the brain symptoms are urgent, etc.

Mr. AXE thought stimulants, with mild aperients, the best treatment.

Other gentlemen having continued the discussion, the essayist in reply stated that the exhibition of a strong dose of cathartic medicine, immediately upon symptoms of illness appearing, would often cut short the progress of the disease. Bleeding was also beneficial in the early stage, and he had seen good results from the judicious use of the slings.

A cordial and unanimous vote of thanks was awarded to the essayist.

The treasurer submitted the financial statement, which showed a balance in hand of £77 6s. 9d.

The election of officers for 1877 resulted in Professor Williams being unanimously chosen president; Messrs. Patterson (ex-president), Bale, and Pratt, vice-presidents; Mr. Cuthbert, treasurer; Mr. Broughton, secretary. Refreshments, at the invitation of the Leeds members, concluded the business of the day.

The annual meeting will be held as usual in January, when Professor Williams will deliver the inaugural address, introducing the subject "May Contagious Diseases be spontaneously generated?"

W. BROUGHTON, *Secretary.*

THE LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE forty-ninth quarterly meeting of the Liverpool Veterinary Medical Association was held at the Medical Institute on Friday evening, November 10th, 1876, the President (Mr Morgan) in the chair. There were present—Messrs. Gilbert Heyes, Hutcheon, C. W. Elam, Kenny, Joseph Leather, William Leather, Thomas Leather, Carlisle, Liverpool; Faulkner, Hopkin, John Lawson, S. Locke, Thomas Taylor, W. A. Taylor, Manchester; Woods, Wigan; Whittle, Worsley; Dobie, Birkenhead; Dixon, Southport; Storrar, Chester; and the Secretary. Mr. Walker, Bradford, was also present at the commencement of the proceedings, but was unable to remain to take part in the discussions.

Letters of apology were received from Messrs. Barnes, Malpas; W. A. Cartwright, Whitchurch; and W. Lewis, Crewe.

The minutes of the August meeting were read and approved.

Messrs. Dixon (Southport), and Faulkner (Manchester), were nominated for membership.

Mr. JOSEPH LEATHER gave notice that at the next meeting he should move a resolution that the annual subscription be increased from ten shillings to one pound.

The PRESIDENT reported that, pursuant to the expressed desire of the members at the last meeting, he had forwarded to Dr. Braidwood a portion of the tongue of the horse, which formed the subject for discussion, for microscopical examination. He had received a reply from Dr. Braidwood, stating that the morbid part having been immersed in glycerine and carbolic acid, it was not practicable for a satisfactory examination to be made. The President hoped that, should a similarly interesting case occur in the practice of any member, he would not fail to bring it before the Association.

Mr. T. TAYLOR, Manchester, introduced for discussion the treatment of fractured lower maxillæ, stating that he had been induced to do so from having seen a bad case treated successfully in the practice of his friend Mr. Robinson, of Greenock. He could claim for himself no credit for bringing forward the subject, but considered the mechanical appliance adopted so perfectly fulfilled the requirements of the case that it should be made generally known amongst the profession, and that the honour of the invention should be accorded in full measure to Mr. Walker, veterinary surgeon of Bradford, the inventor of the cradle, who he much regretted was unable to remain to take part in the discussion. He would read a description of the case he had seen in Scotland, which had been kindly furnished by Mr. Robinson, jun., of Greenock :—

FRACTURE OF THE INFERIOR MAXILLA.

On the 30th of March last I was called to see a horse that had sustained a severe injury to the lower jaw.

The animal, the property of the Caledonian Railway Company, was engaged pulling a "lorry" up a street with a very high gradient, when, owing to the tightness of the collar, he suddenly choked, and fell with his jaw against the pavement ; the "lorry" shaft on the off side, striking him on the rhamus of the inferior maxilla, broke ; the broken portion, slipping over the molar teeth of the under jaw, made a large lacerated wound of the skin, muscle, submaxillary artery, vein, and buccal membrane, and was retained in the horse's mouth until he rose.

On reaching the Company's stables, whither the horse had been conducted, I found the animal weak from hæmorrhage—the profusion of which, however, had been arrested by the use of a very long bandage, which the stable-manager, Mr. James McMurray, had the forethought to apply. On its removal there was still considerable hæmorrhage from the submaxillary artery ; and after having tied it up, I found a long oblique fracture of the bone extending from behind the first molar to the centre of the fifth, commencing on the external surface of the bone at the first molar, and terminating on the internal at the fifth.

On the near side, the neck of the bone presented a comminuted fracture ; the feel to the finger on pressure, all the way from the corner incisor to the first molar, being that of a sack filled loosely with small nails.

I caused the horse to be taken to our yard, where, on consulting with my father, we came to the conclusion that the best thing to be done was to wire Mr. Peter Walker, of Bradford, for the loan of his lately invented cradle. In the meantime, in order that the manager (McMurray), who is an anxious-minded man, should see that we were doing something for his horse, we obtained a sheet of gutta-percha, about half an inch in thickness, and after

heating it in warm water, moulded it to his jaws; but I must say it made a very clumsy appliance. The pulse was 90, and weak. Offered milk to drink, but the tongue seemed partially paralysed, and the animal was consequently unable to swallow.

Mr. Walker, with all possible haste, sent his cradle, which arrived in Greenock the night of the accident; but unfortunately we expected it by the Caledonian Railway, and accordingly awaited the arrival of its train. The cradle, however, arrived by the Glasgow and South-Western Railway, lay all night at the station, and was received next day. Thus the horse stood for one night with the gutta-percha apparatus, during which time he was quite unable to swallow. Next morning, however, after Mr. Walker's cradle was applied, he drank with avidity some milk and eggs.

For several days the pulse varied from 80 to 90; but the thirst was so great that he drank about three gallons of milk, at intervals (per diem), in which was given ten drops of aconite and two drachms of nitrate of potass, alternately.

By-and-by he drank four gallons of milk and one dozen of eggs daily, in which the aconite and nitrate of potass were given, for about three weeks, until the pulse was reduced to 50.

The wound was dressed with a solution of carbolic acid, and kept as clean as possible—the patient's comfort being in every way attended to. About this time, however, he began to give evidence of uneasiness; and on examination it was found that the tooth-plate of the off side was not sufficiently long to cover the second last molar, which had slipped up behind it, and was being pressed against, and therefore to a small extent opening, the fracture at that part. A longer plate was then put on, after which no untoward symptom took place.

On the seventh week from the receipt of the injury the cradle was removed, the cheeks blistered, and the horse turned into a box, where he gradually began to pick a little soft food—at first with great difficulty, from the partially paralysed condition of the lower lip, due to its long confinement. For about a fortnight he quidded his grass and hay; and I found that it was partly owing to the overgrowth of a wolf tooth, which had escaped the pressure of the tooth plate. I was a little afraid to use any violence; but about a week afterwards I ventured, and succeeded in drawing the said tooth.

Nine weeks after receiving the injury, the horse was put to work, and has been doing well ever since.

It is possible that this case of itself merits publication; it was not, however, my intention to offer it on such grounds, but I feel so much indebted to Mr. Walker for his kindness that I believe it my duty to publish it. Therefore, should this communication not find its way into one of our veterinary organs, I shall send it to the *Veterinary Journal*.

This case proves that a valuable animal need not be destroyed, although he meets with a complicated fracture of one ramus, and a comminuted fracture of the interdental portion on the other side of the bone. A more formidable case, I should think, seldom occurs; and I am thoroughly convinced that, but for the valuable cradle Mr. Walker has invented, it would have proved too formidable for reduction.

The case in point owed its success in great measure to the care and nursing it received from Mr. James McMurray, to whom, after Mr. Walker, the bulk of the credit for the animal's recovery is due.

Mr. TAYLOR related three cases of fracture of the bones of the head and face which he had under treatment at the present time.

A general discussion upon fractured maxillary bones followed; at the termination of which it was proposed by Mr. TAYLOR, seconded by Mr. HEYES,

and carried, "That a cradle for the treatment of fracture of the lower jaw, similar to the one invented by Mr. Walker and exhibited at the meeting, be provided by the Association for the use of members."

Mr. STORRAR, sen., Chester, next read the two following short papers upon interesting cases of bovine pathology, which provoked a general and instructive discussion amongst the members present.

EPILEPSIA UTERINA ET DYSPEPSIA.

In the last January number of the *Veterinary Journal*, I observe a paper by Mr. N. G. Rolls, M.R.C.V.S., Arundel, headed "Peculiar Nervous Attack in a Cow, probably due to the Removal of the Calf."

I have met with several cases, the general description of which exactly corresponds with the full and clear details given by Mr. Rolls. I will therefore read from this paper the symptoms he so lucidly gives of his cases.

[*Having read the proposed extract, Mr. Storrar resumed.*]

One of the cases in my practice occurred in March, 1875; and so severely did the cow bite the timber forming the front of her stall, that with one desperate effort she broke all her incisors except one entirely out of her jaw, and with them the alveolar processes, and I was under the necessity, after attempting to reunite them, of taking all off in a piece.—Another case, of many years' prior date, so severely injured her lower jaw, that she could not use her incisors for a good many days; but she could use her *molars* when the food was placed in her mouth.

Mr. Rolls, you will observe, looks upon his cases as caused by the removal of the calf; but this idea is not supported by any of my cases. I will therefore dismiss it as improbable.

I look upon these cases as 1st, Epileptic—the whole appearance and conduct of the animal indicating this; also, 2nd, Dyspeptic—the digestive functions being to a greater or less extent suspended; and 3rd and primarily, as Uterine. The animal affected has calved some few days previously—say from four to fourteen, or even more days; she has been heartily eating her food; giving milk *very largely*,—or, more correctly, her milk has been remarkably rich, throwing up, when left for a time, a very heavy layer of cream; and the usual uterine lochia has been suppressed. Or the case might be thus stated:—An excessive drain upon the system by the mammary glands, causing, perhaps, the suppression of the uterine cleansing, with the peculiar smell about the animal, and more marked in her milk, which is referred to by Mr. Rolls; followed by a less or more severely developed attack of indigestion. These causes act upon the nervous centres so as to produce the extraordinary excitement which has been described.

The dyspeptic signs are the more prominently shown—such as a desire to eat anything unclean in preference to good food, or coarse straw in preference to roots or hay. The bowels become torpid, and the supply of milk nearly ceases. A judicious administration of purgative medicine, with cordial and stimulant drugs, will bring the animal round, and the excessive milking will occur again during the same period.

CASE OF ULCERATION OF THE STOMACH OF A COW, ETC.

The first case I propose to turn your attention to is that of a small black Welsh cow.

She had very severe tympany, accompanied by a very peculiar wheezing sound, which at once arrested attention. This sound could be heard most distinctly over the left hypochondriac region, indicating a connexion with the stomach; it was also constant, and coincident with each inspiration and expiration—thus at once suggesting a direct communication between the stomach and the larger air passages. Pressure upon the rumen caused a

slight escape of air up the trachea, but no benefit was thus obtained by the patient. The trocar and canula were resorted to, and at once gave some measure of relief, and more fully than before established the evidence of a direct channel of communication from the rumen to the trachea ; for at every inspiration air came into the stomach, and at every expiration the air escaped by the canula.

At what particular part of the organs this lesion existed, I could not satisfactorily diagnose. The probability of some sharp agent having cut its way through the œsophagus into the trachea at the posterior part was suspected ; but the innumerable anatomical and physiological difficulties which at once presented themselves, precluded all hope of a satisfactory solution in that direction.

Oil, opium, and diffusible stimulants were administered, with some benefit to the poor animal; but the digestive organs were now under adverse influences, and refused again to assume their functions. Death in a few days ended the animal's sufferings.

The autopsy showed that the lining membrane of the rumen had been the subject, on many occasions, of ulceration in small patches ; some were even now in existence, and other places showed cicatrices—the old wounds being very much puckered, as if pulled together under very adverse circumstances. The rumen was found very firmly adherent to the diaphragm. On looking for the cause, it was found that the point of attachment was one of these ulcerated spots ; that the ulceration had passed through the coats of the stomach, and laid hold of and destroyed the diaphragm ; it had also attacked the posterior lobe of the lung, fastened the lung by adhesion to the diaphragm, and, still continuing to progress, had opened a direct channel into the air tubes of the lung.

This morbid passage was carefully removed, showing the three tissues—stomach, diaphragm, and lung—all adherent, and through it a quill was easily passed. My son carried the specimen to London, where in all probability it may be in the museum of the Veterinary College.

Amongst the small stones, sand, and other rubbish found in the lower part of the rumen and reticulum, were some small but ugly clinkers, with sharp, cutting edges. These were embedded, in some instances, in the lining membrane, and probably their presence may account for the whole of the lesions I have thus described.

Mr. HOPKIN, Manchester, related two cases of paralysis of the limbs in a brewer's horses, which he attributed to some undefined abnormal condition of the food supplied to them. Some years ago he had five cases occurring in the stud of one man, also a brewer, three of which recovered and two died ; the former were placed in slings, the latter were left recumbent. He found that all the cases were not precisely alike : in some the fore, in others the hind extremities were chiefly affected.

In the subsequent discussion, attention was drawn to the frequency of paralytic seizures in horses fed upon ripe, or nearly ripe, rye grass—especially marked by its prevalence in some years, and the rarity or absence of its appearance in others.

Votes of thanks were passed to Mr. Taylor, Mr. Robinson, Mr. Storrar, Mr. Hopkin, and especially to Mr. Walker, for their contributions to the Association.

The Treasurer's annual statement of accounts was read and approved.

Votes of thanks were accorded to the retiring officers, and the following gentlemen elected for the year 1877 :—Mr. Woods (Wigan), President ; Mr. G. Morgan (Liverpool), Mr. Jos. Leather, Mr. Thomas Taylor, Vice-presidents ; Mr. Whittle (Worsley), Treasurer ; Mr. Reynolds (Liverpool), Hon. Secretary.

RICHARD REYNOLDS, *Hon. Sec.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

AT the meeting of this Association held on October 26, 1876, Fred. N. McLellan, Vice-president, in the chair, there was a large number of members and visitors present.

The report on the amendment of the rules was adopted, and the membership is now open to members and students of the medical profession.

The following gentlemen were elected members : viz., D. S. Brown, Genoa, Illinois ; C. C. Miles, Charleston, Illinois ; Chas. Winslow, Rockland, Mass.; Alphonse Levesque, Montreal ; Wm. P. Mullin, Montreal ; Daniel Lemay, Bord a Plouff.

Mr. G. C. LYFORD read a communication concerning shoulder lameness in a colt, attended by interesting complications and formation of abscesses

Professor MCEACHRAN read a very interesting paper on " Conformation and Purchase of Horses." He passed in review the skeleton of the horse as a mechanical structure, pointing out the peculiarities in arrangement—necessary for different purposes ; the uses and capabilities of each part—the vertebral column being the centre of the osseous framework, having all the other parts attached, either directly or indirectly, to it, as the length and strength of its different parts will have very much to do with the perfection of the whole body. He agreed with those who looked upon the fore extremities as being merely supporters of might and the hind ones being the propellers : the attachment of those limbs plainly indicated this. The fore extremity is attached by strong muscular bands, and the angles of articulation and arrangement of the muscles all result in a beautiful elastic springy support, capable of supporting weight and preventing concussion without themselves suffering in doing so ; whereas the hind-leg is attached by a large and strong articulation in a powerful bone directly articulated to the vertebral column, and the attachment of the muscles such as to give the animal the greatest strength on those movements resulting on the extension of the limb, which, with the foot as the fixed point resting on the ground, and the upper end articulated with the pelvis, must propel the body forward. After pointing out the peculiarities required to adapt the animal for different purposes, he proceeded to explain the points of excellence to be sought for in all classes. The head should be medium in size, and proportioned to the body it belongs to ; a large, coarse head is most objectionable on all animals, the size being neither ornamental nor useful ; a small, pony head is equally objectionable, as indicating deficiency in character. The muzzle should be fine, the lips thin and compressed, the mouth deep, the nostrils large, soft, and dilatable ; if small, thick, and stiff, there will be a corresponding want of development of the lungs, and the animal will not be fitted for fast work. The eyes should be large, wide apart, and have boldness and fire, yet gentle-looking ; when they are small and sunken, with heavy, thick eyelids, especially if much of the white is shown, he is sure to be vicious, easily frightened, and untrustworthy. The ears should be long and fine, firm and active-looking, rather close than wide at the top of the head, with the points a little inclined forward. Each part was thus passed in review, the lecturer pointing out the best formation of each for different purposes. On the subject of horse buying and selling, the buyer and seller in their respective characters were commented on, the trials and difficulties of the one and the sharp tricks and clever deceptions of the other explained ; and the lecturer concluded by reading an article by Cornelius O'Dowd on the trials of a gentleman on selling a horse —often as great as in buying one.

Want of space compels us to curtail our report of this very instructive

lecture, which was listened to with a great deal of pleasure and profit by the large attendance of members and visitors present.

At the next meeting, Mr. F. W. McLellan was to read a paper on "The Foot of the Horse."

NOVEMBER.

THE success of this Association, which is in connection with the Montreal Veterinary College, has been far beyond the sanguine expectation of its promoters. We notice with pleasure that each meeting is largely attended, and that progress marks each step. The Association is bound by no conventional rules, as is seen by the last amendment to the rule relating to membership, by which members of the medical profession and students of medical colleges are eligible for admission.

At the November meeting, Professor William Osler, Professor of Physiology in the McGill University, was elected Vice-president of the Association. A very exhaustive paper on the structure and uses of the several parts of the horse's foot, and the principles of shoeing, was read by Mr. F. W. MCLELLAN, Bridgeport, Connecticut; it was illustrated by sections of the foot, models and diagrams, and was followed by an animated discussion on the different theories advanced by different authorities on the subject of shoeing. The President and others agreed that there has as yet been no shoe invented equal, for all practical purposes, and protecting the foot without injuring it, to the plain seated shoe of Osmer and Moorcroft, when properly made and applied as it should be. The "Charlier" and all its modifications were found to be quite impracticable, except in a few instances, especially in pleasure horses; but when the horse had to drag heavy loads over rough roads in all seasons of the year, no other shoe yet invented was so suitable as the seated shoe properly applied.

In no other country has shoeing of horses received so much attention, or so many patents been secured, as in the United States. The President had seen almost every one of them, and tried most; and, like the late Professor Dick, he "was forced to conclude that as yet the seated shoe was the best."

Mr. ARCH. MCCORMICK, V.S., Beauharnois, next read a very practical paper on "Inflammatory Fever," or "Black Quarter" in young stock—that disease having come frequently under his notice of late in his district.

The PRESIDENT (Professor McEachran) exhibited a beautiful specimen of abscess of the pericardium in a cow, caused by half of a common hairpin. The pericardium was thickened to fully half an inch, was adherent to the lower third of the left ventricle, the remainder forming the walls of a large abscess lined by a thick pyogenic membrane, and had contained over two quarts of fluid mixed with pus, part of which was semicaseous and fœtid. The hairpin was found partly lodged in a fistulous recess in the pericardium, near the middle of the left side of the heart, and jutting into the abscess.

The history of the case was as follows:—

On the 12th October, Mr. McEachran was asked to visit the cow, which he did, accompanied by three of the students. The cow was reported to have been more or less unwell for nearly a year, but had continued to eat, and milked fairly since calving; at least, she had nursed her calf so far, it being about three weeks old. Three days before sending for advice she had given up feeding, and was rapidly getting weak. She had been owned and kept in the city for four years, and along with other feed received the slops from the house. She had not been known to lie down for several weeks, and then only for a few moments.

External Examination.—She stood with the head extended, nostrils wide, pupils dilated, countenance haggard, and general expression as if suffering greatly—each expiration being followed by a grunt.

The brisket was enormously enlarged from œdematous swellings; the elbows turned very much out; pectoral and humeral muscles greatly atrophied, the scapula seeming almost to push through the skin, and the chest being suspended as if by two mechanical props. Percussion revealed the presence of extensive effusion into the cavity of the chest on both sides, and auscultation demonstrated the same condition of the pericardiac sac—the heart's action being scarcely audible, very irregular, and its sounds impossible to describe. The breathing was quick, short, and accompanied by considerable lifting of the flanks. The surface heat was low. Diarrhœa of black bad-smelling fæces had set in a few days before, and still continued. The appetite had entirely failed.

Diagnosis.—Professor McEachran, after pointing out the symptoms, gave it as his opinion that the cow was suffering from abscess of the pericardium, arising from a foreign body, such as might get into her food from the kitchen; and mentioned a skewer, needle, or hairpin.

Prognosis.—She was not expected to live over a week or ten days; no treatment was recommended. Next day a number of the students were taken to see the case, and arrangements were made for a *post-mortem* examination when she died. This took place about fifteen days afterwards.

Post-mortem Examination.—The whole sub-thorax was œdematous, and the muscular tissue wasted and pale. The cavity of the chest was quite three-ourths full of a reddish-brown fluid. The lungs were small, and compressed, against the roof of the cavity. The pericardium was very much thickeneds and attached to the apex on the left side, while the remainder of the sac was filled almost to bursting with mixed pus and serum containing caseous flakes. The muscular substance of the heart was pale, and the valves and internal structures free from organic disease. On the left side, near the middle, half of a common hairpin was found imbedded in the thickened pericardium, and projecting into the sac. The pericardium was more than half an inch thick, and lined by a dense pyogenic membrane.

The specimen has been preserved and placed in the museum. This is the second case of a similar kind met with by the Professor; the other one occurred in 1866, in Western Canada, when a skewer five inches long was found imbedded in the right side of the heart. This case was also diagnosed during life.

M. C. Baker, *Secretary and Treasurer.*

ROYAL AGRICULTURAL SOCIETY.

At the monthly meeting, held on Dec. 6th, 1876, the Hon. W. Egerton, M.P. (Chairman), reported that, with reference to the case of Mr. Waldron's flock, the chief constable of Berkshire had written that the flock had been inspected by a competent inspector, and that no action had been taken until after a certificate of the flock being affected with Foot-and-mouth disease had been given by a veterinary surgeon. Mr. Duguid, in reply, had written to the secretary as follows :—

"I forwarded to you a statement of the case as represented to me by Mr. Waldron, who distinctly told me his flock had been condemned for having Foot-and-moutth disease on the authority of a policeman, and never mentioned the fact that they had been examined and condemned by an experienced veterinarysurgeon six weeks previous to my visit."

Mr. Harpley had reported that there are nine qualified men eligible to compete for the scholarships, having passed with great credit or with very great credit in the present year, and that the examinations will be held early in January. The examiners (3) will be appointed by the Council of the Royal College of Veterinary Surgeons on Dec. 8th.

Dr. BURDON SANDERSON had reported that the experiments on Foot-and-mouth disease were commenced in June, and have been continued in successive series up to the present time. The modes of infection employed have been of the most various kinds, but the results as yet have been negative. The investigations of Pleuro-pneumonia have been continued simultaneously, with reference, first to the modes by which the disease is supposed to be communicable, and secondly to its pathological results. With regard to the further prosecution of the inquiry, Dr. Sanderson explained that it was intended,—

1. To make experiments with a view to the testing of the value of several modes of infection not yet tried—*e.g.*, the inhalation of fresh dried material into the lungs, the exposure of animals to the emanations from hides, flesh excreta, and other matters supposed to be infective.

2. To bring any animals, found by previous experiments not to be susceptible of infection by immediate contact, into relation with diseased animals, by placing them in the same stable with animals of the same class.

3. To slaughter other animals for the purpose of ascertaining whether or not, in the absence of any appreciable signs of infection, the lungs or other internal organs exhibited any latent changes corresponding to undeveloped stages of the disease.

It was stated that the sum of £339 8*s.* 8*d.* had already been expended in the purchase of animals, and in the current expenses of the inquiry, and that a further outlay of £93 would be required in order to proceed with it on the same scale to the end of the year. It was recommended that a further sum of £150 should be expended on the remuneration of the skilled persons engaged in the investigations,—viz., £100 to Mr. Duguid for his services, and £50 to Professor Yeo, who had undertaken the pathological part of the work at the Brown Institution. The total expenditure during the year ending Lady Day, 1877, would therefore be £580. The report concluded by proposing that in case it should be thought expedient to continue the investigations with the same animals, the grant for the ensuing year should be £250, it being understood that this sum should cover all ordinary expenses up to Lady Day, 1878.

This report was adopted.

The CHAIRMAN of the Committee then gave notice that at the next Monthly Council he would move for a grant, not exceeding £250, to be placed at the disposal of the Committee for the year 1877, for general purposes, and for special scientific inquiries into Pleuro-pneumonia and Foot-and-mouth disease, now being carried out by Dr. Burdon Sanderson.

Army Veterinary Department.

Gazette, November 28th, 1876.

ROYAL ENGINEERS.—Veterinary-Surg. of the First Class D. I. Hinge, from the Royal Artillery, to be Veterinary-Surg., vice Veterinary-Surg. of the First Class W. Varley, promoted to Staff Veterinary-Surg.

VETERINARY DEPARTMENT.—Veterinary-Surg. on Probation W. A. Crow to be Veterinary-Surg., vice C. Clayton, transferred to the Royal Artillery.

Gazette, December 8th, 1876.

VETERINARY DEPARTMENT.—F. Smith, gent., to be Veterinary-Surg. on Probation.

Veterinary-Surg. R. F. Frost has been appointed to the post of Veterinary Instructor, British Burmah. It is believed that Mr. Frost's duties will chiefly consist in investigating cattle disease in Burmah.

Inspecting Veterinary-Surg. J. H. B. Hallen, Director of Army Remount operations, has returned to Saharanpore.

The following movements of Veterinary Surgeons of "A" Brigade, R.H.A., under orders for England, are ordered: viz., Veterinary-Surg. J. Reilly, from Morar to Lucknow; Veterinary-Surg. J. C. Dwyer, from Morar to Umballa, thence to Meean Meer.

Veterinary-Surg. J. Mathews, Veterinary Department, is directed to proceed from Benares to Rawal Pindi, and take over charge of the 4th Hussars from Veterinary-Surg. Elphick, R.A.

Jurisprudence.

SHAFTESBURY COUNTY COURT.

The Liability of Owners of Entire Horses.

William Meatyard, farmer, of Manston, sued John Coates, gentleman, of Hammoon, Blandford, for £40, damages sustained through the negligence of defendant's servant. Mr. Robins, of Shaftesbury, for the plaintiff; Mr. Dashwood, of Sturminster Newton, for the defence. Owing to its peculiar character, this case was heard in private.

Its importance to stockbreeders and agriculturists, together with its novelty, must be our justification for giving an outline of the facts. The defendant, who is a large breeder of stock, had an entire horse, which travelled for the season. On the 11th May last, defendant's man (Douchwood) called with the horse at plaintiff's premises, and a mare was put to it. During the service plaintiff asked the groom if there was not something wrong; but he replied that it was all right. The horse was used twice, at the request of the groom, who wished to use it a third time, as he thought the service was not complete; but the plaintiff refused, and the mare was removed to the stable. She became very ill, and died in about fourteen hours. Mr. Frederick Reeks, M.R.C.V.S., deposed to making a *post-mortem* examination, by which he found that the death of the mare was caused by rupture of the rectum. His evidence went to show that the mare had been served in an unnatural manner; and the plaintiff's advocate contended that this was the result of negligence on the part of the groom, who did not assist the horse at the proper time. Plaintiff said he gave £40 for the mare about two years ago. Mr. Dashwood said his client defended the action on principle. The horse was let at a low fee, as his client was desirous of improving the breed of agricultural horses. Douchwood was a most careful servant, who had been accustomed to the management of stock for years, and had attended Mr. Coates' animals at nearly all the exhibitions; the horse was quiet, and under proper control; and as the accident arose from no fault of defendant or his servant, but from circumstances over which defendant had no control, he was not liable for damages. Defendant gave evidence as to the quiet disposition of the horse and the efficiency of the groom. Douchwood was called, and admitted that he was not at hand at the proper moment, but said he was unaware that the service was being improperly performed, or he should have stopped it. His Honour was of opinion that the duties of the groom had been neglected, and that therefore the defendant was liable. Judgment for the amount claimed. Mr. Dashwood would be granted a case if he thought it necessary to appeal.

Obituary.

In our last issue we announced the untimely death of our esteemed colleague, Staff Veterinary Surgeon W. Varley, at Aldershot, on the 21st (not the 20th) November. His funeral took place on the 24th of that month; and a military contemporary alludes to it as a proof of the high estimation in which he was held at the Camp:—"The firing party was furnished by the Royal Engineer companies; then came the band of the 64th Regiment, playing the 'Dead March in Saul'; the corpse came next,—and on the coffin, which was of polished oak, were the hat and sword of the deceased officer, and several wreaths of flowers. The deceased officer's charger followed immediately after the corpse, after which came two coaches containing the chief mourners. Nearly the whole of the Engineer troops—of which, prior to his promotion, Mr. Varley was for many years veterinary surgeon—together with the Royal Engineer companies and the military police, followed, and the rear was brought up by a number of officers, including Lieut.-Gen. Sir Thomas Steele, K.C.B.; Col. Wood, V.C., C.B., A.Q.M.G.; Col. Harman, A.A.G.; and Capt. Cardew. On arrival at the church, the body was met by the Principal Chaplain and the chaplains of the division; and the procession along the aisle was headed by the surpliced choir of the church, in which the deceased had taken a warm interest. The service in the church was performed by the Rev. W. Bullock; and on its conclusion the procession re-formed, and, amid heavy rain, which had commenced to fall, continued its march to the cemetery, where the remaining portion of the burial ritual was read, the usual three volleys being fired over the grave. The deceased, who was forty-five years of age, was highly respected." His Royal Highness the Duke of Connaught, through Col. Sir Howard Elphinstone, K.C.B., commanding the Royal Engineer Train, was graciously pleased to convey his condolences, with his portrait, to Mrs. Varley. This token of His Royal Highness's generous regard for one of their number, will be greatly appreciated by the officers of the Army Veterinary Department, who have every reason to be grateful to their soldier Prince.

Mr. W. Cockburn, jun., of Glasgow, who graduated in 1866, died, we much regret to announce, on November 23. The veterinary profession sustains a heavy loss in the demise of Mr. Cockburn, whose past career gave promise of a bright future. In his own immediate locality he was greatly beloved and respected, and his death has been the subject of public comment. One influential journal thus alludes to the mournful event: "By a large number of agriculturists in the west of Scotland, and owners of horses and other stock in Glasgow, the intelligence of the unexpected death of Mr. Cockburn, jun., veterinary surgeon, who succumbed to gastric fever on the morning of November the 23rd, after three weeks' illness, was received with much sorrow. The deceased gentleman, who was well skilled in his profession, and a ready and indefatigable worker, for the last eight or nine years assisted his respected father in attending to an exceedingly large practice, and during that time won the confidence of a large number of customers, as well as troops of friends, from his own social good qualities. He was a finished horseman, and often led the field with the Lanarkshire and Renfrewshire foxhounds; while his neat seat in the saddle, and able handling of his horse, often excited the admiration of onlookers at the ring side of many west country cattle shows, where he secured frequent honours (notably at the Glasgow Agricultural Society's exhibition) in the jumping competitions. He was also a well-known member of the Queen's Own Yeomanry Cavalry, to which regiment he was not long ago gazetted veterinary surgeon; and at the annual parades at Hamilton he will be missed by many, as he indeed will be by 'man

and beast' in Glasgow and the agricultural districts around. His death is the more melancholy, seeing that he was scarcely a year married. Much sympathy is felt for his young widow in her untimely bereavement."

In our issue for November last we alluded to Mr. Paton, 4th Hussars, as being about to be invalided from India on account of ill-health. We are now greatly pained to learn that, during his passage to England, his death took place under the most melancholy and afflicting circumstances. We greatly deplore the loss of Mr. Paton. Personally, he was one of our dearest and most attached friends, from college days onwards. Professionally, he was one of the early and frequent contributors to the *Veterinary Journal*, in the success of which he took the warmest interest—deeply impressed as he was that modern veterinary science and professional progress should be adequately represented by an independent organ. He was an able veterinarian, and his contributions to our scanty literature are somewhat numerous; they are largely marked by originality and close observation. Mr. Paton served in the Crimea in 1855-6; after which, joining the Cape Mounted Rifles, he was stationed for many years in South Africa. On the disbandment of that regiment, he was transferred to the Army Service Corps, from which he exchanged to the 4th Hussars this year. Sincerely esteemed by all who knew him, for his many excellent qualities, our deceased friend had a great claim on their regard and admiration, from the readiness with which he was willing to sacrifice himself for the benefit of others. This won for him, some years ago, the medal of the Royal Humane Society—he having saved a person from drowning; and not long ago a bar was added to the medal, for rescuing, at great peril, a man who was perishing in the river Liffey, in the presence of a crowd of people. We can badly afford to lose Mr. Paton from the ranks of the profession, but most of all from the Army, of which he was one of the most esteemed and painstaking officers.

We have received intelligence of the death, in India, of Mr. J. Hume, Army Veterinary Department, who graduated in 1873. This event will give rise to much regret, as Mr. Hume was much liked by all who were brought into contact with him.

The following deaths have also been reported: Mr. W. Francis Hedley, M.R.C.V.S., of Richmond, Yorkshire, who graduated in 1838; Mr. Lewis Fielder, M.R.C.V.S., of Dunsfold, who graduated in 1830; Mr. J. Hazell, M.R.C.V.S., of Great Bromley, Essex, who graduated in 1845; J. Barton, M.R.C.V.S., Birkenhead, a graduate of 1844; J. B. Bretherton, M.R.C.V.S., Liverpool, who graduated in 1820; G. Bretherton, M.R.C.V.S., Liverpool, a graduate of 1853; C. Speakman, M.R.C.V.S., Liverpool, a graduate of 1822; G. Stewart, M.R.C.V.S., Rothiemay, Banffshire, a graduate of 1846; J. Simpson, M.R.C.V.S., America, a graduate of 1864; J. Martin Fagan, M.R.C.V.S., Ormskirk, a graduate of 1868; and J. S. Forbes McDonald, M.R.C.V.S., Turriff, Aberdeenshire, who graduated in 1868.

Notes and News.

XANTHIUM SPINOSUM AND RABIES.—At a recent meeting of the Paris Société de Pharmacie, M. Yvon described some experiments that had been made in the Alfort Veterinary School, by Professors Trasbot and Nocard, respecting the alleged prophylactic action of *Xanthium spinosum* against Rabies Canina. The results had been entirely negative.

Farcy and Glanders in India.—We learn that a severe outbreak of Farcy and Glanders has occurred among the horses of the 11th Hussars at Umballa. As usual in such outbreaks, the grass-cutters' "tats" (ponies) introduced the malady; five of these animals had to be shot, as well as five troop horses. The regiment was afterwards carefully inspected, and three cases of Glanders were discovered. It would appear that the course of this serious malady is very insidious in India, and rarely presents acute symptoms.

Disease among Cattle in India.—A deadly type of "Murrain" (why employ this unmeaning word of the Dark Ages?) has broken out among the cattle in the Kangra district of the Punjab, compelling the local authorities to apply for the services of a veterinary surgeon. The *Indian Public Opinion*, a Lahore paper, in a recent issue, draws the attention of the Government to the prevalence of cattle disease in the Punjab. It is stated that Epizöoties among cattle are much on the increase, and that Commissioners take no steps to put a stop to the spread of these diseases. Some time ago Mr. Boyd, Army veterinary surgeon, submitted a very full report on the diseases of cattle in the Punjab; and the remedies suggested would doubtless have succeeded in arresting the ravages then committed. Unfortunately the suggestions of Mr. Boyd do not seem to meet the views of the ignorant and apathetic zemindar, and the result is that many districts are now the centres of disease. It is said that the remedies recommended by Mr. Boyd are complicated, and cannot be carried out satisfactorily. But it is time that some steps should be taken by the authorities to protect the province from such a calamity. We are informed that disease among cattle prevails in parts of Bengal.

Horses in Germany.—According to the *Militar Zeitung*, the German army possesses at the present time 63,304 horses, 6403 being classed as "young horses." Of the total number, 48,962 belong to the cavalry, 12,051 to the artillery, and 2036 to the train of the army.

Veterinary Editorship. — Mr. George W. Rust, founder of the American *Live Stock Journal*, is obliged to retire from the editorship, owing to ill-health. He is replaced by Mr. James Law, Professor of Veterinary Science at the Cornell University, Ithaca.

Singular Epizöoty among Fish.—A Maryland newspaper reports "A singular freak of nature has taken place on the Atlantic coast during the past week. Millions upon millions of dead fish of different kinds have been washed up from the sea, and lie rotting in the sun, like John Randolph's mackerel on a moonlight night. In one place on Cobb's Island there is a strip of the beach two miles long and seventy-five feet wide covered with them to a depth of from three to six feet. Several large vessels are engaged in collecting and transporting them to the farmers of Accomac County, to be used for manure."

Hydrophobia communicated by non-Rabid Dogs and Cats.—Dr. Moritz related to the St. Petersburg Medical Society the case of a boy who died with well-marked symptoms of Hydrophobia six weeks after being bitten by a dog—the dog up to the time of the boy's death never having exhibited any sign of Rabies. A similar case was communicated to him by a colleague of a boy who died hydrophobic after being bitten by a cat—the cat remaining to all appearances well. Dr. Severin had also met with a case of a child dying who had been bitten by a dog that continued well. He had inoculated rabbits with saliva, blood and pus taken from this child, but without producing any results.—*St. Petersburg Medical Wochenschrift.*

HABITS OF ANIMALS TRANSMITTED TO OFFSPRING. — Mr. Potts, of Phinitahi, New Zealand, writes to *Nature* of October 19th, 1876 :—"Breeding many horses yearly on my station, I notice, as a matter of course, some of their peculiar habits. In a semi-wild state on a run, horses graze together in large or small companies, which 'station hands' call 'mobs'; these mobs wander at will over a large area of country, finding abundance of good natural pasture and water. Some years since, a mare became solitary in her habits, always seeking one particular creek; whenever released from work she made off to her favourite feeding-ground by herself; if 'rounded up into a mob' she would take the earliest chance that presented itself of reaching her usual haunt. One of her progeny, some years after, showed a similar liking for solitude; he was placed among several other horses (many of which he had known for years), on a small run intersected with bushy gullies, more or less rocky. He was soon missing, and search was made for him for some time without success; he was supposed to have come to grief in the bush. At length he was found, most unexpectedly, on a small patch of pasture between two rocky gullies thickly bushed; this spot was so difficult of access that a slight track had to be cut to get the horse back. Having been brought from a large station where he was bred and reared, he no longer enjoyed a great range by which he could place any long distance between his companions and himself; he displayed much tact and judgment in the way he secured the indulgence of hereditary habit, by discovering and reaching with difficulty an almost inaccessible solitude. One of the best and fleetest stock mares for the fast and hard work of 'cutting out' was a beautiful creature notorious as an incorrigible kicker. She has most faithfully transmitted this vice to her offspring. 'Cutting out' is drafting a beast out of a mob, following it through all its wild rushes, twistings, and turnings, through perhaps many hundreds of cattle, never leaving it till it is fairly drafted out. This work often taxes the skill and energy of the stockman and his horse pretty severely. Peculiarity in the formation of the hoof has been handed down to descent after descent by a grand old mare, who had this blemish as a slight counterpoise, perhaps, to her many virtues. A particular strain of Dorking fowls, which I have had for thirty years or so, always shows a restless desire for rambling—and that too under the difficulty of meeting with much persecution when straying beyond their ample range. This special family always exhibits what may be termed the gift of locality."

THE EFFECTS OF BREEDING AND FEEDING UPON THE SKIN.—The *American Agriculturist* remarks that an experienced tanner makes a curious reference to the effect of the high breeding to which Shorthorn stock has been subjected for some years upon the quality of the hide, and also to the effects upon the condition of the skin of high feeding, starvation, and climate. Thus hides grown in a cold climate, such as Canada or Russia, are thick and coarse in texture and fibre, and those from warm countries are fine and thin. The hides of "improved" cattle are thin and less valuable than those of the semi-wild cattle of South America and Texas; and in this respect the improved breeding which these cattle are undergoing tends to overcome the influence of climate, and is changing the character of their hides. Poor feeding and ill-health, as might be expected, cause the hide to be fine and close in texture, shrinking the fibre; this result follows the condition known amongst farmers as "hide-bound." It is not held as a serious consideration amongst farmers how much the hides of their cattle may be worth; but yet, as the value of the skins as a material for the manufacture of so widely used an article as leather is of no little consequence to the world at large, it is interesting to note that the better the cattle are fed and cared for, the better is the leather manufactured from their hides.

HORSE-TAMING IN MEXICO.—The taming of vicious horses by a Mexican officer is thus described in an American paper : "He took a cord, about the size of a common bed cord, put it into the mouth of the horse like a bit, and tied it tightly on the animal's head, passing his left ear under the string, not painfully tight, but tight enough to keep the ear down and the cord in its place. This done, he patted the horse gently on the side of the head, and commanded him to follow ; and instantly the horse obeyed, perfectly subdued, and as gentle and obedient as a well-trained dog, suffering his legs to be lifted with impunity, acting in all respects like an old stager. That simple string thus tied made him at once docile and obedient as any one could desire. The gentleman who thus furnished this exceedingly simple means of subduing a very dangerous propensity, intimated that it is practised in Mexico and South America in the management of wild horses. Be this as it may, he deserves the thanks of all owners of such horses, and especially the thanks of those whose business it may be to shoe or groom the animal."

MAIZE AS FOOD FOR HORSES.—A letter from New York, signed "A. B. Allen," has been published in the *Agricultural Gazette*, which gives some valuable hints as to the use of maize for feeding horses. Maize is of a very fattening, heating nature ; and therefore care must be exercised when it is first used, or when it is given in hot weather. To horses under four years old, he says, the proportion of maize should not exceed one to four of corn ; for horses under eight, half maize and half corn is enough. Old horses, even, should not be entirely fed on maize. A horse may have from two to twelve quarts per day given to it, according to its age and work done, etc. It is best given in a partially ground state, and if given whole is liable to cause colic. If ground up too fine, it is not easily digested. Horses in America are often turned into fields when the maize is in a green state, but if unaccustomed to such food, it would be likely to cause colic so severe as to greatly injure or even to kill them.

Correspondence, etc.

IMPORTANT NOTICE.

To the Editor of the VETERINARY JOURNAL.

SIR,—Will you kindly permit me, through the medium of your valuable journal, to draw the attention of the profession to the importance of forwarding at once any change of residence, etc., not only for the New Register, but in order that the voting papers may be issued in accordance with the provisions of the Supplementary Charter, for the election of Members of Council, and the respective votes of the profession duly recorded at THE ANNUAL GENERAL MEETING.

I am, Sir, your obedient servant,

WM. HY. COATES, *Secretary and Registrar.*

Royal College of Veterinary Surgeons,
Red Lion Square, London, W.C.,
November 23rd, 1876.

ETIOLOGY OF MILK FEVER.

To the Editor of the VETERINARY JOURNAL.

SIR,—With your kind permission I shall endeavour to reply to the communication of "Scrutator" upon this subject, which appeared in your issue of August last, as concisely and "pointedly" as possible. I wish to state here, that it was not the intention of my first communication to account for every phase of so-called Milk Fever in cows upon the hypothesis of retention, decomposition, and absorption of puerperal *débris;* but merely to state that it was my conviction that the typical case is so caused. Neither can I hope to unravel the intricate connection between uterine phlebitis and thrombosis, acute metritis, metro-peritonitis, puerperal toxæmia—*i.e.*, puerperal septikæmia and pyæmia—upon one or the other of which my conviction is that all of these cases can be explained, and that the *post-mortem* appearances will bear this explanation. That in cows the toxic element is in the ascendant is, I think, shown by the *post-mortem* appearances of the brain and blood—the one of which is often congested and always loaded with serum, the other being dark, *tarry*, and, however shortly after death it may be examined, exhaling a peculiar, faint, almost fetid, odour—which condition clearly shows the presence of a morbid poison.

I will here take space for the relation of two cases, which, contrasted, may help to throw some light on the subject.

Case 1.—This was a large cow of no particular breed, extra good milker, had always been healthy, and wants to come in with her sixth calf. On the fifth day before her time was up, she was turned into a yard adjoining her stall, seemed bright, and "played considerably." In the evening she became uneasy,—and, in fact, commenced her labour. From this time the appetite was fickle. On the morning of the second day after, the calf presented in the usual way, the labour having continued by fits and starts, but at no time had the pains seemed to be severe. In the absence of the owner, some neighbours thought it necessary to help her—which they did with unnecessary roughness. After some two or three hours of this the fœtus was still-born; the placenta was not delivered. Here the appetite failed entirely; she became continuously worse, until, when my attention was called—which was during the afternoon of the following day, or some thirty-two hours after the delivery—she was found stretched on her side, deeply comatose, breathing much embarrassed, pulse indistinguishable, heart's action weak and fluttering, great tympanitis, secretion of milk entirely suspended, bowels constipated. No treatment. At nine a.m. next day, the cow having been dead some twelve hours, a *post-mortem* examination was made. *Brain*—cavity of the arachnoid filled with bloody serum; substance loaded, and ventricles filled with serum; puncta vasculosa well marked; rupture and clot at pons Varolii. Blood dark coloured and fluid throughout; veins full. *Uterus*—Mucous membrane gangrenous; cotyledons softened, spongy, and bathed in pus; veins contain clots; sinuses, on pressure, yield pus; placenta adherent, very friable at its uterine attachments, but otherwise tough and apparently healthy. *Intestines* healthy, except where they had been in contact with the uterus.

Case 2.—This cow was a grade Ayrshire, a deep milker, and generally well nourished; was the property of a labouring man. She calved at about four p.m., April 18. About an hour afterwards she was noticed by the man's wife to be "a little odd." However, when the man came home, shortly after six the same evening, he *milked about eight quarts of milk from her;* and, although he noticed that she did not appear just right, nothing was done, and not much thought about it, until the next morning, when it was found that she could not get up and had no appetite. I did not see her until about half-past twelve o'clock on the 19th, when she was down flat, deeply coma-

tose, pulse almost imperceptible, *slightly* tympanitic ; she could not swallow ; the udder was flaccid. Owner said that when he found her down in the morning he had milked about two quarts of milk from her. No treatment. She died late the same night. *Post-mortem* examination, made about ten hours after death, revealed : *Brain*—much congested ; substance and ventricles contained an abnormal quantity of serum ; no rupture. *Blood* fluid and black. *Tissues* moist. *Veins* full. *Intestines* healthy. *Uterus* flushed and flabby—perhaps no more than it should be at this time. *Colyledons* slightly inflamed ; very small quantity of a purulent-looking fluid could be squeezed from the sinuses ; the smaller veins were noticed to contain clots. A portion containing a number of these veins was cut away, and the clot examined under the microscope, with such a result as induced me to send the whole specimen to a physician of large experience, with the statement that it was from the uterus of a cow, and a request that he examine it ; and if he found the veins to contain clots, to examine them microscopically. This he kindly did, and reported to me as follows :—

" Dr. Lyman. — Dear Sir,—The specimen taken from the uterus of a cow, evidently a cotyledon, contained in the veins numerous clots. Some of these clots, after carefully removing them from the veins, I examined with the microscope, and, with a + 240 power, found large numbers of cells resembling pus cells, full of granular matter, many fusiform cells, full of the same granular substance, round cells aggregated together and filled in their interior in the same manner as the others. Acetic acid dissolved this granular material in some of the cells, leaving a nucleolus ; others were not affected.

" Very truly,

"April 15th, 1876. "S. W. Bowles, M.D."

Now the first of these cases was undoubtedly one of Puerperal Metritis ; the second evidently one of Milk Fever, in which the symptoms were established very soon after calving. I ask if the actual cause of death was not the same in both instances. In the case of No. 2 it could not be suspension of milk ; for this cow gave milk—not a great quantity, to be sure, but some—almost up to the stage of insensibility ; and up to the time of death the only peculiarity of the udder was that it was flaccid and below normal temperature ; certainly in this case, as in all others I have seen, as far from being in a state of active congestion as possible. I think the explanation of the cause of death in this case is Puerperal Toxæmia. Professor Williams (" Medicine," p. 624), in speaking of Metritis, says, " It is a diffuse inflammation, primarily seated in the mucous membrane of the uterus—*some, however, extending to the uterine veins*—giving rise to the formation of clots or thrombi, and extending to the peritoneum and intestines ; that the inflammation is characterized by its tendency to spread rapidly over a large surface, and by the formation of a fluid exudation, which, examined microscopically, consists of the *débris* of disintegrated blood globules, pus and blood corpuscles, and an abundant quantity of granular material, etc. . . . This affection may be looked upon as being due to pyæmic or ichoræmic poisoning, due, amongst" other things, "to wounds inflicted upon the uterus. . . . It may also be induced by obesity, more particularly in the bitch. . . . It may occur within a few hours after parturition, or its appearance may be protracted to the third or fourth day. Symptoms : paddling of hind-feet. . . . Almost a total suppression of milk. . . . At last the eye becomes amaurotic, and complete unconsciousness sets in." Now let us for a few moments see how closely one of these diseases resembles the other in some points. Williams says that the inflammation is primarily seated in the mucous membrane of the uterus. Here, unfortunately, I must again quote from such authorities as Barker

and Leischmann, who say that Puerperal Metritis (idiopathic) commences in the *veins* of the uterus, extending from them to its mucous membrane, the peritoneum and intestines. The next point is in the microscopic appearance of the products of disintegration. Compare those of Case 2, as reported by Dr. Bowles, with those of the exudate described by Williams—with due allowance, of course, for difference in location. Next, this affection is "due to poisoning caused by wounds" inflicted. Now Leischmann, speaking of the time of parturition, says, "A certain amount of traumatism always exists at the placental seat of the uterine cavity, which only becomes dangerous from the influence of some special toxæmia." The cause of obesity is already established in "Milk Fever"; if it should be that one is a modification of the other, the present exception in favour of the bitch might well be overlooked. As to the periods of their appearance there is no appreciable difference. The first symptoms—viz., paddling of hind-feet, and notably *almost a total suppression of milk*—seem to call for direct comparison. Especially, why should a natural result of nervous prostration be passed over in the one case by a mere mention, and in the other be accused of being the *cause* of so much damage? The minor symptoms seem to tally pretty well; compare Prof. Williams's description of them with that of the two cases, and particularly the manner of death. Unfortunately, Williams does not give the *post-mortem* appearances of Metritis; but a comparison of those of the two cases does not show any vital difference. That congestion of the brain is not a persistent *post-mortem* appearance of Milk Fever is shown by Williams,—who, in describing the morbid anatomy of this affection, says, ". . . and in others no marked congestions have been seen, having in all probability disappeared *post mortem*, or perhaps immediately prior to the animal's death; . . . but in all cases the brain substance itself is loaded with serosity."

Now having stated, as clearly as possible in a limited space, my position in general in this matter, I will endeavour to answer the questions put to me by "Scrutator."

I. As to the title of my first communication, that is clearly a matter of opinion, and has no bearing on the point at issue.

II. As to my obliviousness, I think the remarks already made in this paper will clear me from this accusation.

Case 2 will answer the third question. Again, the value of quotations from Barker is a matter of opinion. How can one describe the *post-mortem* appearances of a disease, if there are none, in a given case? In this connection, I will say that I have recently seen what I consider to be a case of purulent infection of the joints following a case of "Milk Fever," which case will probably be reported to the journal at a future day.

V. The early stage of septic poisoning I consider to be one of inflammation; and I submit that in this stage the pulse would be full and strong, and that the giddiness, etc., described would be among the earliest manifestations of the action of the blood poison on the nerve-centres.

VI. It is so well known a fact that Gaspard, Virchow, and others, have used putrid pus in the experiments referred to, and that healthy pus in the blood causes no harm, that it would seem as if the special pointing out of the fact in a paper of this kind was superfluous. I never thought of being accused on this score.

VII. It is quite likely that the blood drawn in an "early stage"—viz., the inflammatory—would have the appearance ascribed to it by "Scrutator"; this proves nothing. Let him tell us what is the appearance of it after the disease has thoroughly established itself. I can attest that, *post mortem*, it coincides exactly with the description given by Dr. Copeland.

"Scrutator" is unfair, and overdoing the thing, when he compares the

blood which he draws in the "early stage" of "Milk Fever" with Bennett's description of the blood, *post mortem*, in a case of Septikæmia.

"Scrutator" says that the suspension of the secretion of milk is caused by "congestion and deficient nerve stimulus;" and a little further on, in the very next paragraph, that he believes the suspension of the secretion of milk causes the cerebral congestion. Will he kindly reconcile these two statements?

I will allow that if central congestion be the cause of the suspension, it (the suspension) "can be easily accounted for;" but if this is the case, then the theory of suspension of the secretion being the cause of the congestion is exploded; otherwise if it (the suspension) causes the congestion, and is so easily accounted for, will "Scrutator" do so,—keeping in mind always that he is talking about suspension of this secretion as a primary lesion, and congestion as merely a result of this, and that "Milk Fever" is quite capable of killing a cow within thirty-six hours of the time of parturition?

Regarding "Scrutator's" fourth cause for "Milk Fever," it seems to me that a much more natural explanation of his experience would be that the best cows—that is, the large milkers—are ordinarily selected for dairy purposes, and that the liability of such to this disease is undoubted.

And now, Mr. Editor, I consider it only due to myself to say that I look upon the peculiar way in which "Scrutator" has thus far conducted this correspondence as entirely uncalled for, and ungenerous in any case; and that the use of a fictitious signature to a paper of the description of his last, under the circumstances, is a proceeding which is scarcely fair, to say the least of it. I call upon him for his proper signature.

Yours respectfully,
CHARLES P. LYMAN.

Springfield, *September 30th*, 1876.

[The pathology of this disease, or diseases, has long been a source of discussion among veterinarians in this country, as well as on the Continent of Europe. In "Veterinary Obstetrics" we shall endeavour to throw all the light we can upon it.—ED. *V. J.*]

A SCHEME FOR RAISING THE STATUS OF THE VETERINARY PROFESSION.

To the Editor of the VETERINARY JOURNAL.

SIR,—I admire very much the ability and philanthropy of spirit displayed by you, for the protection of the veterinary profession and the public from the inroads of quacks and quackery. It is only in the means of attaining such a desirable object that I would be disposed to differ with you on the subject. Where do the quacks spring from, as a rule? From the farrier's shoeing-forge, and the veterinary students who have failed to pass the necessary examinations to qualify them as veterinary surgeons. There are amongst them, I have no doubt, some of the lowest class of society, and some of them may even have three or four wives; nevertheless, among them I have met men of great ability and good sound common sense,—men whom I would be proud to welcome as brethren.

Why do they exist? Why is there a demand for their services? Simply because there are in the profession men with M.R.C.V.S. to their names who could not perform the simplest surgical operation efficiently—far less write a sensible prescription for the medicine for their patients. How can such a state of matters be remedied? By lifting or raising the profession, and also the quack! I remember, some months ago, asking one of my elder brothers in the profession, "for whose opinion I have the greatest respect,"

what he thought of the action taken lately by the Highland and Agricultural Society? His answer was, "It is premature. If anything is to be done, it must be accomplished by the members of the profession themselves." Since then his saying has haunted me by night and by day till now, when it resolves itself into the following shape: viz., that we build and endow a Scotch veterinary university at Edinburgh, with authority to train or teach, to examine, and to grant degrees, such as "Veterinary Farrier," "Veterinary Surgeon," and "Veterinary Doctor of Medicine." The veterinary farrier should by law be compelled to attend the said university for a period of at least two sessions, and receive a course of lectures on the following subjects: viz., the structure and functions of the horse's feet and limbs, and a similar course on the art of shoeing. At the end of the period specified he should be examined, and, if found qualified, be allowed to practise as a "Veterinary Farrier." For the "Veterinary Surgeon" there should be a similar course to the one lately introduced, except that the degree should only qualify for attendance on the horse and dog. After passing the final examination, he should be two years practising as an assistant before receiving his diploma. The "Veterinary Doctor of Medicine" should attend at the said university for a period of not less than four years; the degree to qualify for attendance on all domestic animals. I believe that a scheme such as the above would attain the object that every one who has the welfare of the profession at heart desires to see accomplished.

How is such a scheme to be carried out? I answer, By the members of the profession. There are many sources to which we might look for help; but let the profession make a beginning; let them show to the world that they are in earnest. Then they may expect encouragement and help from those who are able and willing to assist, if the project were once properly set in motion.

Would you receive the opinions of the profession on such a scheme? If you find a hundred members who would subscribe £100 for such a purpose, I will also be happy to do so.

If you find a hundred members who would give £200 for such a purpose, I will gladly do likewise.

"Yours respectfully,

"A. J. MacCallum."

PROFESSIONAL MORALS.

To the Editor of the Veterinary Journal.

Sir,—I am induced to make a few remarks on the above-named subject, in the hope that it will tend to prevent a repetition of the unprofessional conduct which came under my notice a few weeks since. On August 30th I received a letter from a veterinary surgeon in Dorsetshire, asking me to go, by an early train on the following morning, a distance of over seventy miles, to give an opinion on a case of illness of a horse. I accordingly went, but did not see the veterinary surgeon, as he had not received my letter stating that I was coming. I saw the horse, and found that it was suffering from Acute Laminitis in all four feet. I was told by the owner's son that it was first seen by the veterinary surgeon on the 24th, and that he pronounced it to be a case of Fever in the feet, and that he had applied poultices to these; but in consequence of his father not thinking that the complaint was in the feet, and the veterinary surgeon not being as attentive as was considered necessary, he, on the 26th, telegraphed to another veterinary surgeon at a town ten miles distant, and whose assistant came the same day and examined the horse, especially about the loins, giving the opinion that it was a

case of Congestion of the Kidneys, and not Laminitis. No. 1 veterinary surgeon did not see the assistant, neither was he allowed to see the horse again. On the morning of the 29th the horse was seen by the assistant's principal, who then told the owner that there was some trifling ailment affecting the feet, but left it to be inferred that it was not the chief disease. However, the poultices were again applied, and continued until I arrived when they were taken off and the feet washed as clean as possible before I was allowed to see the horse. A glance was sufficient to enable me to diagnose the nature of the case, though I had the horse led into the yard. I have since been informed that he died on the 24th September, his hoofs then sloughing off.

We have undoubtedly made considerable progress in our profession in the last few years ; still there is great room for further improvement, and I consider it is not just to ourselves to overlook, and by inference approve of, conduct incompatible with the social position it is sought to give the profession in public estimation, as such a course would act as the greatest barrier to the advancement of veterinary surgeons themselves. What is wanted, more than Acts of Parliament for putting down quacks, is a due appreciation among the members themselves of the individual responsibility attaching to each, not only to secure a fair share of pecuniary remuneration, but also for the advancement of the profession at large, which is best done by recognising a path of moral rectitude under all circumstances. This is as essential to social advancement as is any improvement in the preparatory studies, however much an enhanced course of education may tend to render the mind sensitive to the influences brought to bear upon it in after life. We ought to ask ourselves the question, Are we actuated by such motives and principles in all the relations of life as will entitle us to expect that social status to which members of an honourable profession may aspire? We shall remain what we make ourselves—just as we, as a body, have made ourselves what we are.

In the May number of the *Veterinary Journal*, Mr. Field has stated, in reference to consultations, "Surely if physicians and surgeons find that they and their patients are benefited by getting a second opinion, we, of all people, ought to."

But I am sorry to be obliged to state that there is still a great deal of jealousy about allowing another veterinary surgeon to be called in consultation when a case is under treatment; and no doubt there have been too many cases in which there has been cause for it, from the consulted veterinary surgeon either trying to get the case into his own hands, or from a desire to show superior knowledge of it, or not being sufficiently cautious in expressing his opinion. However, if consultations were more frequent, the abuse would correct itself. If veterinary surgeons would only do their duty to the profession, as well as to themselves, we should soon not require many special Acts of Parliament. At present there are only a few who give themselves the slightest trouble to benefit the profession. There are many who never see the *Veterinarian*, and who do not know of the existence of the *Veterinary Journal*. I went to a town in Wiltshire last month, in a consultation case; and on asking the veterinary surgeon if he subscribed to the *Veterinary Journal*, he said that he had never heard of it, and he had discontinued taking the *Veterinarian*, as there was nothing in it.

There are also many members conducting large practices, who subscribe to the veterinary journals, and have the ability of adding to our literature ; but from a want of interest they do not do so—some of them making the excuse that they have not time : yet they can find time whenever they desire to attend races, or have a day's hunting, coursing, shooting, and many other pleasurable engagements. I have also heard other members state

that they do not feel competent to write for the journals. If they would only try to report their cases, they would soon find it a very easy matter.

I beg to remain, yours truly,

Bath, *November* 18, 1876. THOS. D. BROAD.

VETERINARY SURGEON *alias* "VET."

To the Editor of the VETERINARY JOURNAL.

SIR,—When Mr. F. C. Burnand, of "Happy Thought" renown, set "about buying a horse," it struck him that "Veterinary" was an awkward word, and that it could not be said well without shaking your head. The *alias* "vet." he styled a "jaunty abbreviation." With equal propriety he might have added "and an opprobrious one."

It is to be acknowledged that "Veterinary" *is* rather difficult of integral and distinct articulation, and that its construction unfortunately admits of numerous undignified conceptions and unbecoming contractions, needlessly indulged in by its possessors, and heedlessly employed by others and the public generally. So long as the former, by colloquial example, invite the latter to render their titulary adjective *vicariously*, so long must we neither object to be dubbed "vets.," nor "vits.," nor disown the several changes that are rung upon, or wrung out of, the word "veterinary." The profession, at least, ought to know better than to behave disrespectfully to its own title; it has no admissible excuse to be "jaunty," or less than serious with itself; yet, strange to say, it is wondrously so, even where it *certainly* ought not to be. *Out* of the army, and in the army, there are those who style themselves "vets.," and evidently regard the nickname in the light of a compliment. There is no accounting for taste, it is true; but we really cannot understand a member of the Royal College of Veterinary Surgeons calling himself a "vet." To be spoken of—and what is worse, introduced—as "the vet.," sounds odious and almost vituperative. Such is *our* taste; and we believe we have participators in what we have said, though our views to some may appear extreme.

There are adequate reasons why we should make the most of our profession, as well as of ourselves as veterinary surgeons; for few outside the professional pale will help us in this desirable direction. There are also serious objections to the adoption of "jaunty abbreviations," either in respect to our title or nomenclature; and the sooner we eschew this undesirable tendency the better. "What's in a name?" There must be something—good, bad, or indifferent. By that which we know and call ourselves, rest assured we shall be known and called by the world; and though "a rose by any other name would smell as sweet," we question—and indeed we need not—whether "veterinary surgeon" by any pseudonym would sound as mellifluous. Therefore, having the selection of its orthoepic cadence, it will be as well to study the accentuation and integrity of the term "veterinary," with a view to a correct and euphonious pronunciation; so that an exemplary rendering by those whom it most concerns may tend to establish its universal adoption, and to discard its monosyllabic and other nicknames. We cannot call to mind another word so liable to unwarrantable distortion, curtailment, and cacophony; and as few manage to spell it correctly, and fewer succeed in pronouncing it aright, we earnestly invoke the aid of "Spelling Bee" directors. Can anything be more disagreeable than the malpronunciation of names or other important words? No, unless it is the conversion of "vet." into a verb—an insult no less to the English language than to the British veterinary surgeons.

"I wish him *vetted* by you,"—"He was *vetted* by *Vet.* H.,"—and "I will get you to *vet.* him," are the neological expressions rapidly creeping into use.

In some countries veterinary surgeons are, by courtesy, addressed as "Doctors;" and, so far as courtesy goes, they have as much right to the "Chalk Degree" as many of the sister profession who meet with the same uncertified compliment. However, we want no more than that to which we are justly entitled, and no less than our dues—titulary or monetary: at present there is a dearth of both; but, perhaps, with the creation of the former, will come an increase of the latter.

Verily this "jaunty abbreviation," vet., sets one's teeth on edge, so harsh is its sound: it is derogatory to the profession, disparaging to its members, and should be abominable to every one. Let us hope, then, to hear less of "vets."—at any rate from Graduates of the Royal College of Veterinary Surgeons.

Faithfully yours,

RICHARD POYSER, V.S.,
6th Dragoon Guards (The Carabineers).

[We earnestly commend our esteemed correspondent's remarks and counsel to our veterinary readers. Nothing can be more undignified, vulgar, or slangy than the application of the designation he so energetically condemns, to a veterinary surgeon. Perhaps at first introduced by the hard-driven witling of a "comic" weekly paper, or by some untutored groom or stable-boy, whose unfamiliarity with pronunciation made him cut the word to suit his tongue; it is becoming only too common, even among those who don't pretend to small wit, and who would certainly object to make regular use of the stableman's lexicon. The suppression of the unmeaning and objectionable appellation rests to a large extent, if not altogether, with veterinary surgeons, who need not accept or acknowledge it, unless they approve of it.—ED. *V. J.*]

TO CORRESPONDENTS.

THE numerous communications, reports, and letters, unavoidably pressed out of this month's Journal, shall appear in our next.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from W. Shipley, Yarmouth; H. Olver, Tamworth; R. S. Reynolds, Liverpool; S. Knott, Royal Artillery; J. Moore, Jun., London; Alex, Lawson, Manchester; W. Broughton, Leeds; A. G. Rolls, Arundel; T. D. Broad, Bath; M. C. Baker, Montreal; R. F. Frost, Royal Artillery, Mooltan; G. Wyer, Donnington; "Nemo;" A. J. MacCallum, Edinburgh; R. West, Redhill; J. Gerrard, Market Deeping; R. Robertson, Kelso.

BOOKS: *J. H. Steel*, Outlines of Equine Anatomy; *M. Foster*, A Course of Elementary Practical Physiology.

JOURNALS: *Oesterr. Vierteljahresschrift f. Wissenschaftliche Veterinärkunde; Edinburgh Medical Journal; Practitioner; Wochenschrift f. Thierheilkunde und Viehzucht; Der Thierarzt; Recueil de Médecine Vétérinaire; Annales de Médecine Vétérinaire de Bruxelles; Archives Vétérinaires; Revue Vétérinaire.*

NEWSPAPERS: *Norfolk Chronicle; Australasian Sketcher; North British Agriculturist; Illustrated Australian News; Melbourne Argus; Melbourne Leader; Scotsman; Medical Press; Broad Arrow; Australasian; Turf, Field and Farm; Live Stock Journal.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

FEBRUARY, 1877.

BILIOUS OR YELLOW FEVER IN HORSES AT LEITH IN 1875.

BY PRINCIPAL WALLEY, EDINBURGH VETERINARY COLLEGE.

Definition.—"A low fever, running a definite and prolonged (continuous) course, liable to exacerbation or remission, and marked by a jaundiced (icteric) condition of the visible mucous membranes, infectious in character, attended by grave complications, and followed by serious results."

Duration.—From four to five days in mild, to three or four weeks in severe cases; average, ten days to twenty-one.

Fatality.—Not great, except where animal had been neglected, overworked, much exposed, or debilitated from previous disease or old age.

Extent.—Commenced in March, violence abated about middle of August; isolated cases occurring as late as October, and even up to the present date.

Course.—Not determinate—broke out at several points simultaneously. On some days four or five cases occurred; then several days, or a week or two, and towards decline three or four weeks, intervened between individual outbreaks. In one

stable four horses out of twelve were attacked; in some stables, one or two only. In some studs it assumed a mild type—solitary cases occurring, and not sufficiently severe to throw animal off work. In other studs its character was very aggravated.

Invasion.—In some cases (especially if lesions primarily localized in lungs or intestines) rapid, in others prolonged; animals working for days with nothing more noticeable than dulness and languor.

Period of Incubation.—Uncertain, but about four or five days as a rule. Did not, except in occasional cases, show such a tendency to the localization of lesions in previously weakened or diseased organs or tissues as did Effusive Fever. The exceptional cases noticed were one of chronic laminitis, one of chronic pulmonary disease, and two or three of inflammatory œdema.

Symptoms.—Premonitory.—Occasionally ushered in by abdominal pain; sometimes by diarrhœa; at other times by pulmonary congestion; otherwise, languor, slight yellowish serous discharge from nostrils, stiffness, inability to undergo exertion, readily perspiring, shivering, slight constipation of bowels, and mucoid fæces, cough, and uneasy movements of limbs, marked the advent of the disease. The pulse, respiration and temperature—unless invasion was violent, or lungs primarily attacked—were not much interfered with.

In two or three days slight defluxion of tears, with yellowness more or less marked (but always present early) of visible mucous membranes, was observed. The coat was staring and dry. The following tables indicate the characters and state of the pulse, respiration and temperature in three cases:—

No. 1, an old grey cart-horse, had already suffered from several attacks of Influenza, and was the subject of Elephantiasis as the result of repeated attacks of acute œdema: *died.*

No. 2, a valuable horse, seven years old, in good healthy condition. Typical case, though aggravated by pleuritic complications and effusion into pulmonary parenchyma: *recovered.*

No. 3, a valuable cart-horse, eight years old, purchased five days previously for £140, in prime condition and without fault or blemish. The lungs were never attacked in this case, but

there was a copious discharge of pus from the nose throughout. Occasionally the discharged material resembled masses of broken up cheese. The appetite was good.

The acute symptoms were succeeded by relapsing Purpura Hæmorrhagica, and three months' illness followed, from which he *recovered*, and *did well.*

No. 1.

June 23rd.	24th.		25th.		26th.		27th.	
p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
R.—nat.	16	18	20	30	18	20	24	40
P.— 60	64	72	70	70	72	80	84	82
T.—103$\frac{3}{5}$	104$\frac{2}{5}$	107	105$\frac{2}{5}$	105$\frac{3}{5}$	104	106$\frac{1}{5}$	105	rusty discharge

	June 28th.		29th.		30th.		July 1st.	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
R.—	42	34	40	48	48	36	48	42
P.—	84	78	72	78	86	82	84	76
T.—	—	103$\frac{4}{5}$	104$\frac{4}{5}$	104$\frac{3}{5}$	103$\frac{3}{5}$	103$\frac{4}{5}$	102$\frac{1}{5}$	101$\frac{4}{5}$

No. 2.

June 15th.	16th.		17th.		18th.		19th.	
p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
R.— 28	32	32	30	36	32	44	28	36
P.— 80	76	84	76	76	60	60	60	60
T.—105$\frac{1}{5}$	106	107$\frac{2}{5}$	105$\frac{1}{5}$	105	104	104$\frac{1}{5}$	104	103$\frac{1}{5}$

June 20th.	21st.	22nd.	23rd.	24th.
a.m.	a.m.	a.m.	a.m.	a.m.
R.— 28	28	18	16	12
P.— 56	60	54	52	40*
T.—101$\frac{4}{5}$	102$\frac{1}{5}$	101$\frac{4}{5}$	101$\frac{1}{5}$	101

No. 3.

June 23rd.		24th.		25th.		26th.		27th.	
a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
R.— 14	18	18	16	16	18	18	20	14	16
P.— 68	76	76	72	72	72	64	76	72	74
T.—105$\frac{2}{5}$	105$\frac{4}{5}$	105$\frac{2}{5}$	106	105$\frac{2}{5}$	105$\frac{4}{5}$	104$\frac{3}{5}$	106	104$\frac{1}{5}$	—

June 28th.		29th.		30th.		31st.	July 1st.	2nd.	3rd.
a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	p.m.	p.m.
R.— 13	13	14	13	12	12	12	13	12	8
P.— 64	60	60	54	58	60	60	56	50	53
T.— —	103$\frac{1}{5}$	102$\frac{1}{5}$	102$\frac{1}{5}$	103$\frac{1}{5}$	103$\frac{3}{5}$	103$\frac{1}{5}$	102$\frac{3}{5}$	102$\frac{1}{5}$	102$\frac{1}{5}$

* Intermittent, and remained so for some days.

From the above carefully recorded tables, it will be observed that in No. 1 the respiration was natural on the first day, though the pulse and temperature were increased, and continued to increase up to the fifth day; the pulse, with some variation, remaining high to the end, but the temperature gradually declining up to the 30th, afterwards rapidly lowering, and continuing to do so up to his death, which took place about the 3rd of July.

The respiration kept gradually increasing in frequency up to the 27th, then suddenly mounted high and remained so. Coincidently with the increase in the respiration, the mucous membranes became dark in colour, the appetite suspended, and a flow of yellowish fluid (afterwards becoming rusty and finally bloody and fœtid) took place from the nostrils. Auscultation revealed *general Pneumonia*. About the third day the usual discharge from a chronic eczematous leg commenced to flow, and became unbearably fœtid in spite of disinfectants. This animal was probably ill two days before I saw him, though the illness was not pronounced. Diarrhœa set in as the disease advanced.

No. 2.—It was acknowledged that this animal had been dull and heavy a day or two prior to the 15th June. The pleuritic complications were well marked. Pulmonary effusion took place on the fifth day; and afterwards, as shown by the table, the respiration bore no relation to the pulse and temperature. The appetite was indifferent for the first five days; afterwards it rapidly improved, and a good recovery was made. The pulse remained intermittent for a short time, and the cough, which was very irritable, was not relieved for a week or more.

No. 3 had been observed to present symptoms of ordinary cold for a day or two, but it was not until his appetite failed, on the 23rd, that my attention was especially directed to him. The appetite in this animal was also indifferent for the first five or six days, when it improved and remained very good up to the 5th of July—the date of the first appearance of Purpura Hæmorrhagica. On this day, and for a few days after, the pulse and temperature ran very high, then gradually declined as the purpuric symptoms disappeared, again rising with each relapse.

The respiration never rose above 20, and only attained that number once—viz., on the evening of the 20th ; the throat was excessively sore and cough irritable; the bowels were regular. It will be observed that the temperature attained its greatest elevation in Nos. 1 and 2 on the evening of the second day, and in No. 3 on the evenings of the second and fourth days. The mucous membranes in No. 3 never became very dark (venous) in colour, but remained of a yellow tinge throughout, and after the first relapse of Purpura became absolutely bloodless. The Purpura was treated with $FeSo_4$ and $CuSo_4$, Cantharides and Capsicum, morning and night, with Potassium Iodide in the middle of the day, and injections of Ol. Tereb. once a day. Milk, eggs, whisky, and porter were also freely administered ; and under this treatment he progressed satisfactorily until an excessively cold stormy night came on, with east and north-east winds, when he relapsed ; then again gradually improved for four or five days, when I determined, as Hæmorrhagic symptoms were marked, to substitute Secale Cornutum and Quinine, with Ol. Tereb., for the mineral tonics. This treatment was persisted in for two days with marked effect,—the swellings subsiding rapidly, and the temperature declining from 105° to 102° ; but observing that he was visibly emaciating, I substituted Iodine for the Secale, but derived no benefit from it, and after two or three doses and the advent of another storm, he again relapsed, the symptoms being more serious than ever, and from the condition of the throat and the swelling of the face, no nutriment could be administered through the mouth, neither would he voluntarily eat much food. I compensated for this by throwing up nutrient enemata ; and again recurring to the use of Secale, I had the satisfaction of seeing him gradually improve. After about ten days I substituted Arsenic for the Secale, and a few days subsequently Nux Vomica for the Quinine. A little œdema of the sheath remained for some time, and there was also considerable pruritis and desquamation of epidermis.

The acute febrile symptoms in the majority of the cases attained their climax about the fifth day—in some remaining stationary for three or four days, then gradually declining. If Pleurisy supervened, the pulse assumed a pleuritic character, the

mucous membranes became scarlet in colour, and the legs were constantly moved in an uneasy manner; and if the animal was made to progress, the usual expressive grunt was emitted. On auscultation pleuritic sounds were detected with the evincing of pain on palpation; the fæces became glazed, scanty and dry, If congestion of the lungs supervened, the usual symptoms of this condition became developed.

Pulmonary effusion occurred about the fifth day, and was readily detected by a fall in the temperature and pulse, and by the breathing becoming more laboured and less hurried; all the acute symptoms were relieved on the advent of the effusion, the appetite (if in abeyance) returned, and the mucous membranes remained icteric, but not injected; by auscultation the extent of the effusion and its gradual subsequent subsidence could be measured; the laboured breathing gradually became relieved as the effusion was removed (usually about a week or ten days). No animal in which the fever was well marked assumed the recumbent position, but all stood obstinately until the fever abated; in slight cases recubation was never arrested. Irritants—unless inflammation of the pleuræ or lungs was violent—acted freely. The emaciation was not so great as in the majority of epizoötics of the same character; but pruritis and desquamation of the cuticle were constant attendants on convalescence—the icterus continuing in some cases for weeks. In many cases the poison appeared to be eliminated by the kidneys—the urine being copious and loaded with sedimentary matter—and in these cases recovery was more rapid than in those in which the urine was scanty and clear.* One animal, a valuable black cart-gelding, was brought to me with a pulse of 90, respiration 36, temperature 105°, mucous membranes of a deep orange hue, and the appetite totally lost. (Pleurisy) disease had been noticed three days, during the whole of which time the horse was made to perform an amount of work greater even than on ordinary occasions when in health. Two previous attacks of Influenza were recorded in my memory against this horse, in both of which lung

* No abnormality was discovered in the blood; but in the nasal discharge of one animal I discovered numerous bacteria, to the presence of which I did not attribute much importance, as they may have been derived from external sources.

complications were present, and in which lung lesions (permanent) resulted.

This case—as I had no hesitation in predicting to the owner on the first examination—went steadily and speedily on to very extensive *Hydrothorax* and *Hydrops Pericardii*, with unhealthy pleural adhesions and breaking up of the originally injured portions of lung structure, and the formation of vomicæ in them. The liver was two or three times its natural size, very solid, and abnormally pale in colour—transverse section showing an appearance which I never saw before in this organ: the whole of the acini being beautifully mapped out by the deposition of green colouring matters of the bile in the interlobular spaces. The tissues of the body were universally icteric.

Another animal, an old (26 years) grey coach-horse, I was asked to look at one Sunday morning. I found him on his side (a position in which he had been some hours), struggling violently, with all the constitutional symptoms of "Bilious fever" well marked—the respiration, however, being comparatively quiet, the eye bright, and the appetite, during the intermissions of pain, good. On raising him by the aid of slings, total Paraplegia was at once discovered. I attended to him and relieved his pain for two or three days (he was a great favourite), when, no alleviation taking place, he was by my advice destroyed. In this case all the tissues and mucous membranes were of a deep orange-red colour. I did not examine the internal organs.

A third animal (a bay hack gelding, five years old) my attention was directed to before death. The history of this case disclosed previous spinal injury (from which, however, a tolerable recovery had been made), and a variety of other troubles. I was informed that the animal had been ill about a week, that he had been attended—or rather neglected—by a farrier, who had not been to see his patient for two days until within an hour or two of my being sent for, when he stated that the horse was in a fit; and after a partially successful attempt to administer a dose of physic in solution, he left without further ceremony. I found the animal lying on his near side, constantly struggling with the fore, but perfectly incapable of moving the hind limbs, and every few minutes straining violently and rolling the eyes (which were

very prominent) wildly about; the muscles of the face were variously contorted, the mucous membranes of an orange-red hue, the pulse oppressed and scarcely distinguishable. The peculiarity of the symptoms led me at once to examine the condition of the bladder—which viscus I found distended to its utmost limits, the slightest pressure upon it bringing about violent convulsions and straining. Inquiry further elicited the fact that the poor beast had lain on the one side for two days, and that no attempt had been made to relieve the bladder—indeed, it had not been thought of. Despatching a messenger for my catheter, I determined upon altering the position of the horse; this was done with very great care, in order to avoid rupture of the bladder, but not without inducing convulsions and straining. On the return of the messenger, in about three parts of an hour, I administered a draught composed of Tinct. Opii, Spts. Æth. Nit. et Ammon. Carb. Sol., and passed the catheter—an immense quantity of dark thick urine making its escape. When the bladder had been emptied of about two-thirds of its contents the animal commenced to kick violently, the eyes began to roll, and the heart to palpitate so strongly as to visibly raise the walls of the chest—its sounds being heard some yards distant; the superficial veins became distended, and stood out upon the surface of the skin like cords, death following in a few minutes after the development of these symptoms. Autopsy revealed a similar condition in this case to that which was seen in the black gelding, with the exception of the lungs and pleuræ being healthy; the brain also was perfectly normal in its structure; the mucous membrane of the bladder was thickened and inflamed.

Treatment.—In all cases mild aperients—as oil, sulphate of magnesia, or calomel—were administered at the outset, followed by the free use of carbonate of ammonia, repeated once, twice, or thrice a day, according to the urgency of the case, with the addition of aconite when the feverish symptoms ran high. Belladonna or digitalis were borne very indifferently, and were only administered in one or two cases, and only for two or three doses.

Each case was studied and treated according to the especial

symptoms and complications which it presented, or by which it was accompanied—no hard and fast line being laid down for every case; flying blisters were occasionally applied, and with marked benefit, and after their use the hot sheet was in some cases brought into requisition, especially if the patient showed much irritation on the application of a stimulant. The flying blisters were had recourse to with marked benefit in two or three instances, after fomentations had failed to give relief.

Counter-irritants were always of great value in promoting the absorption of pulmonary effusion, and in determining the intensity of the lung complications. Hygiene was strictly attended to. Stimulants, especially whisky, ale and stout, were freely given when the appetite was lost and the fever high, and were continued on to convalescence; eggs, malt mashes, gruel, boiled barley and grass were also supplied judiciously. One case dated recovery from the horse having been made (unintentionally) inebriated, and another after the free development of the toxicological symptoms of aconite (which was given in too large a dose by the attendant)—the violent revulsion in both cases, in a most marvellous manner, leading to rapid absorption of the serum which had been effused into the lungs. In the convalescent stages, arsenic and nux vomica proved of much service; and whenever pulmonary effusion took place potass. iodid., alternated with ammonia and nux vomica, was had recourse to, with success in every instance.

I would particularly call attention to the success which attended the administration of ergot of rye and quinine in the Purpura of No. 3 case. I was led to administer these agents from the consideration of two facts: viz., that a zymotic poison was circulating in the blood; and that the nutrition and consequently the resisting power of the walls of the capillaries and arterioles had been thereby interfered with. I should also mention that in this case I attributed (at least to some extent) its relapsing character to the animal having been supplied with impure water.

Sequelæ.—Two cases of *Purpura Hæmorrhagica:* one case I have already referred to; another case occurred in a well-bred five-year-old carriage-horse, ran through the usual course, was

treated with Cupri et Ferri Sulph. et Pulv. Canth., m. et n. in mash; Potass. Iodid. in water, and Ol. Tereb. by injection in the middle of the day, and made a good recovery. This horse suffered from pleuritic complications during the violence of the febrile attack, and for a few days the purpuric lesions were located in the lungs.

A very remarkable clinical fact was forced upon my attention in connection with this case. After the subsidence of the primary febrile attack I ordered the application of a cantharidine blister to the off fore-leg (the animal being lame from splint), and during the subsequent effusions which accompanied the Purpura, and which in turn involved the other three limbs, the leg remained fine. Pulmonary effusion was the most common result, and has been referred to before. Cough and sore throat were frequent sequelæ, and were sometimes very troublesome to get rid of.

Observations.—I think the whole course of this affection, and its sequelæ, point distinctly to the presence in the blood of an aeriform poison capable of rapid multiplication and extension, and tending to produce repellation between the constituents of the vital fluid, and, as a consequence, separation of its elements, leading to effusions and extravasations; its symptoms, too, I think, warrant the designation of "*Yellow Fever*," which I have given it. The two cases of paralysis were remarkable (although doubtless due to effusion on to the spinal cord), considering that in not one single case were there any brain symptoms shown. The length of time which the icterus remained was also a very marked feature, and was due to structural alteration in the liver, as the result of effusion; or to the deposition of the colouring matter of the bile in the interstitial connective tissue. The cough was no doubt due either to organic changes in the lung tissue, to interference with the tenth nerve, or to submucous effusion, or thickening, of the broncho-laryngeal mucous membrane. Towards the latter part of October this disease again prevailed, but only in a modified degree—*i.e.*, fewer cases, and not so grave in character; but, curiously enough, I had a dog suffering at the same time from Zymotic Hepatitis.

I cannot close my remarks on the subject of Bilious Fever

without directing your attention to a very instructive case which recently occurred in my practice.

A Belgian draught-horse, five years old, in good condition, recently imported, was brought to me on the morning of April 1st, presenting symptoms of a mild attack of Bilious Fever, with sore throat. I noted nothing special in the condition of the animal; and, after ordering the necessary treatment, directed that he should be again brought for my inspection on the morning of the 3rd. These directions were complied with; and on examining my patient I found that the pulse had risen and that the breathing was hurried; I was also informed that his appetite had become indifferent. The symptoms, however, were not very alarming. Treatment was continued; and on visiting my patient the following day I soon discovered that he was much worse—the pulse having risen to 80, the breathing to 24, and the temperature to $104\frac{2}{5}^{\circ}$ F.: appetite in abeyance, mucous membranes not much injected. On auscultation and percussion, I found that the whole of the inferior half of the left lung was impervious—a condition which I attributed to zymotic effusion. I will not weary you with minute details of the progress of this case, but will simply direct your attention to its most salient and important features.

On April 6th diarrhœa set in (no laxative medicine had been administered); and simultaneously with the advent of this intestinal catarrh a number of small abscesses (at first more like pustules) made their appearance on the chin. For the first day I did not attribute much importance to these abscesses, as they had much the character of the pustules and ulcers which we see frequently produced in transit by sea from contusions; but as day succeeded day the abscesses became more numerous and larger, involving the angle of the mouth, the cheeks, and the upper lip; and those which had burst discharged an enormous quantity of laudable, though sanious pus: coincidently with the extension of the abscesses, the lips and lower part of the face became swollen to such an extent as to prevent the animal eating or drinking and to make the administration of medicine a difficult operation.

One peculiarity I noticed in these abscesses—viz., that before

eruption the surface was quite flattened, almost umbilicated, and of a brown hue. As the abscesses rapidly increased in number, and the purging was unabated, I had no hesitation, on the 8th, in expressing an opinion that the animal was suffering from Pyæmia, as the result of breaking up of previously diseased lung tissue, or probably of an abscess; and absorption into the blood of toxic material, or transportation of infective thrombi. Antiseptics, eggs, milk and port wine were freely administered; and as the diarrhœa became more alarming, they were on the 9th combined with astringents; at the same time enemata of starch were thrown into the rectum. I should observe that at this date the discharges had assumed a brownish-red hue, but throughout were not at all fœtid.

On the night of the 9th abdominal pain was evinced, and continued (though not violent) all the following day, requiring the administration of several anodyne doses before relief was afforded. I now expressed a decided opinion that ulceration or suppuration of the large intestine had set in, and that the case was hopeless; nevertheless, I was asked to persevere in my attempts to give relief. The pulse still remained about 80, but the breathing, though slightly more laboured, was not so quick as at the outset. The temperature, however, commenced to lower —the thermometer registering 103° F. The physical lung symptoms on the left side were less alarming than on the 3rd.

April 10th.—All the symptoms aggravated, with the exception of the diarrhœa, which was checked. The respiration was more laboured, and accompanied by a grunt; the mucous membranes pale; the temperature $102\frac{3}{5}^{\circ}$. Multiple abscesses appeared on the left shoulder, the sides of the thorax, and on the inside of the near hock; those on the face had increased in number. Auscultation revealed increased dulness in the left and friction sounds in the right side—these sounds being accompanied by a loud noise, similar to the crying of a child, and by cavernous râles.

April 12th, a.m.—Gave directions that the animal should be shot; some delay occurred in the carrying out of the order, and he died at 3 p.m.

Autopsy revealed extensive inflammation, ecchymosis, and

thickening of the coats of the cæcum, with two large, irregular, greyish patches, externally; showing that in a short time, had the patient lived, perforation would have taken place. In the interior of the bowel I discovered a cluster of irregularly rounded, softened, greyish elevations (a little smaller than threepenny-pieces), and intermixed with these a number of clean-cut ulcers—which did not, however, extend past the mucous membrane. In other parts of the intestines several hyperæmic circles existed.

Towards the apex of the intestine several patches, as large as the palm of the hand, of mortifying and disintegrating intestine existed, corresponding to the large grey patches on the exterior, and separated from the surrounding mucous membrane by a distinct chasm of segregation. The dead portions of the intestine were softened, thickened, and grey in colour, except on the surface, which was dyed (by the contents of the gut) of a brownish hue. At the extremity of the apex the ulceration had extended by contiguity to both sides of the intestine.

The kidneys were large, pale, and soft. On carefully opening the thorax I was astonished to find a very large quantity of reddish-brown serum, the surface of which was covered with foam; the serum in the left chest contained a large number of yellowish-brown flakes of partially degenerated lymph—evidently the product of the breaking up of an old abscess. The lower part of the left lung was intimately adherent to the costal and phrenic pleuræ, and a cavity existed in its interior which communicated with a bronchial tube—thus accounting for the presence of foam on the surface of the serum, and also for the absence of fœtor in the breath, which I had particularly remarked throughout the attack. I am of opinion that the walls of the abscess communicating with the pleural cavity had given way between the time I saw the horse in the morning and his death in the afternoon, as I detected nothing on examination to lead me to the conclusion that such a lesion existed; neither did the respiration indicate hydrothorax — the peculiar boat-like action of the flanks so characteristic of this condition being absent.

Suppurative peritonitis was extensive; the peritoneal cavity containing a tolerably large quantity of unhealthy pus.

As to the character of the enteric disease, I am of opinion

that it is in some respects allied to human Typhoid, and that it originated *autogenetically* (*i.e.* by auto-inoculation), as the result of the rapid breaking up of a previously diseased portion of lung with absorption therefrom of infective matter into the blood—the glands of the cæcum becoming vicariously sacrificed in their attempts to excrete the poison. Had the animal lived a sufficient length of time, sloughing and perforation would have inevitably resulted. The course of this case and the occurrence of the secondary enteric lesions teach us to be careful how we express an opinion as to the cause of ulceration of the coats of the intestines, as we may be the cause of much injustice and trouble, not only to brother practitioners, but also to grooms and carters, by attributing such lesions as I have described to the empirical administration of corrosive agents.

I may observe that a few weeks ago I was asked by Mr. Rutherford, V.S., of Edinburgh, to look at a Belgian horse which presented symptoms allied to those seen in this case, with the exception of the labial eruptions being purely pustular and superficial, and the breath being extremely fœtid. Mr. Rutherford has since informed me that on *post-mortem* examination he found extensive Colic ulceration. Mr. Tom Taylor, of Manchester, also told me, some nine months ago, that he had a number of cases of a similar character; but as I had no opportunity of examining the *post-mortem* lesions in either case, I cannot pretend to pronounce an opinion as to their identity.

PERI- AND ENDO-CARDITIS, WITH VALVULAR VEGETATIONS IN THE HEART OF A FOAL.

BY G. WYER, M.R.C.V.S., DONINGTON, LINCOLNSHIRE.

I HAVE forwarded to-day (Nov. 18th, 1876), per rail, to "The Brown Institution," the heart of a foal about five months old. The history of the case is as follows:—About eight weeks ago, Mr. ——, a few miles distant, sought my advice respecting this animal, which was in a field. It, with two others, was at once ordered to be got into the yard; after some trouble, and

much exertion on the part of the foal, the latter fell to the ground, and all its attempts to get up again were futile. The owner suggested that it should be destroyed, but to this I could not then assent. On examination, I found all the limbs much swollen, the pulse very quick, the breathing laboured, a slight defluxion from both nostrils, trifling cough; the visible mucous membranes were in no way changed, except in the presence of several minute hæmorrhagic spots observed on the conjunctivæ and nasal and vaginal membrane. From these appearances I pronounced the case to be a serious attack of Purpura Hæmorrhagica, and at once had it placed in a loose box. It was then submitted to a tonic treatment—consisting in the administration of ammonia, gentian, ginger and ale three times a-day, with a little Ol. Tereb. occasionally. Thirty-minim doses of sulphuric acid were poured into water for the foal to drink three times a day. A liberal diet was ordered, and attention to the general comfort of the creature. Under this treatment, in about three weeks restoration to health was effected. Having frequently to attend in the yard, I occasionally looked at my late patient, and observed that it had gained flesh rapidly. Ten days ago, however, my attention was again directed to it, as it looked much emaciated and had great pain in both hocks. I told my client that I this time had no hopes whatever of a favourable result; but it was, nevertheless, placed under the tonic treatment—gentian, ginger, ferri sulph. and potass. bicarb. It died in a few days.

The autopsy proved the abdominal viscera to be healthy; but on opening the thorax I was struck by the space the heart occupied, and on further examination I found its sac distended with a straw-coloured fluid—perhaps to the extent of two quarts. The heart itself exhibited very much the same colour; it was larger than usual, and in an anæmic condition. The valvular disease and vascular tumour found therein needs no comment from me, and I leave that matter entirely in your hands. The lungs were quite healthy.

Thinking this an uncommon case, I have much pleasure in submitting the heart for your examination, and any remarks you may think necessary to make I shall be glad to receive.

[The heart is an excellent, and we fancy almost unique, specimen of peri- and endo-carditis—but more especially the latter. The right cavities are chiefly, if not solely affected, the most marked features being semi-organised masses of fibrin in different parts, though more particularly on the tricuspid valve in the auriculo-ventricular opening, one of the segments of which shows a mass as large as a big walnut; the other segments also exhibit similar deposits, and smaller ones adhere to some of the *chordæ tendinæ*. The sigmoid valves of the pulmonary artery are likewise studded with these vegetations. The venous regurgitation must have been very extraordinary in this case, and death was doubtless due to the disturbance produced in the pulmonary and venous circulation.—ED. *V. J.*]

SOME NOTES OF A POULTRY EPIZOÖTY.

BY W. ROBERTSON, M.R.C.V.S., KELSO.

DISEASES of poultry have not, as a rule, largely engaged the attention of either veterinarians or comparative pathologists. Occasionally, however, whether from the extent of the distribution of such diseases, their epizoötic character, or the analogies or relations which they bear to similar conditions in other animals or in man, their study is fraught with more than ordinary interest, and may be productive of valuable practical results.

Acting upon this belief—the probability of interest, and the possibility of practical benefit—I submit the accompanying narrative of facts; abstaining in the meantime from attempting to draw therefrom any conclusion, or to advance any theory or hypothesis regarding the special etiology or pathology of this diseased condition.

During the year 1876, over a large district of the border counties, the ordinary or gallinaceous poultry have, on several separate farms, suffered much from a specific and distinctly marked diseased condition, which, from its individuality, extent, and fatality, has attracted more than ordinary attention. The present is certainly not the first time that this disease has forced

itself upon the attention of those interested in these matters; it has, at varying intervals and at isolated places, for many years been observed among our ordinary farmyard poultry. This disease, whenever and wherever appearing, has been characterised by features of unvarying similarity: insidious in its origin, steadily progressive in its course, and fatal in its results.

Regarding the nature of the disease, there may be room for difference of opinion. Greater, however, than the difficulty of securing unanimity of opinion on this point, is that of satisfactorily determining the exact nature of the causes which operate in its production. Breed does not seem to have much or any influence in its production—fowls of any pure breed, as well as crosses and nondescript varieties, being alike sufferers. Although it is extremely probable that the main causes in its production are dietetic or enthetic, still the exact nature of these agencies, or the manner of their introduction into the animal body, and their mode of operation, do not appear as yet satisfactorily determined.

Fowls fed chiefly or largely on raw grains, have suffered not less severely than such as have received liberal supplies of cooked food.

Age seems to have some connection with its origin, and with the development of obvious symptoms. Rarely are the birds of the first year, to even a critical observer, detected as in any manner suffering from ill-health; although when killed from flocks where the disease has fairly established itself, even they give unequivocal evidence of infection. It is chiefly among birds of the second year, or older, that this disease claims its largest proportion of victims. That defective sanitary conditions are not largely concerned as factors in the production or development of this condition, would appear tolerably certain, seeing that the most serious outbreaks have been in cases where attention to space, cleanliness, ventilation, temperature, light, and other conditions favourable to robust animal life have been most largely and faithfully carried out. The time occupied in the progress of this disease, from the period of its visible manifestation to its fatal termination, varies from three weeks to as many months: the average may be set down at six weeks. Although not attracting attention at the time, to the extent of arousing

suspicions of serious results, it has always occurred to the recollection of the owners, when the disease has been fully established, that prior to the first visible or attractive manifestation of ill-health there had been a marked decline in the quantity of eggs obtained, and this without any appreciable cause. Although, in a general sense, it may be said of this disease that its progress is characterised by a gradually increasing marasmus, there are, nevertheless, instances tolerably numerous to be met with, where the fowls have died without great outward manifestations of disease, and continuing to the last fairly well fleshed.

The general train of symptoms are, first of all, a capricious appetite, a disposition to mope by themselves and appear careless of their plumage. Very shortly an irritable diarrhœa sets in, the fæcal matter being of a yellowish tinge; the eye loses its brightness, and the wattles and comb their colour. As the disease advances the nervous system seems affected; the birds lose control over their movements, or they are lame,—mostly of one limb, more rarely of both, and have a stupid semi-conscious appearance. Food in many cases will be partaken of, even when the disease is advanced, if placed before them; although they will not seek it, either from inability to move or from impairment or loss of special sensation.

The structural alterations discoverable in all autopsies have been confined to the abdomen and organs contained in that cavity—notably the spleen and liver. When this latter organ has been much diseased, there has always been found a considerable quantity of fluid in the cavity. The bowel, but chiefly the cœcal tubes and colon, together with the mesentery, carry the specific and characteristic material of the disease. This adventitious or new-formed material is in the liver and spleen deposited, or collected in circumscribed masses or nodules, varying in size from a mere speck to collections as large as a pea, or even larger, and of a grey or yellowish-white colour, firm to the touch, and apparently granular in character. This material, so like miliary tubercle, is laid down amongst the component structural elements of the organ, with which it does not appear to intimately unite or mingle, simply pushing them aside. In

the liver it is distributed through the entire organ, studding the surface, but beneath its capsule, giving it a bright speckled appearance: these spots or nodules being, as already noticed, of variable size, but always clear and isolated. When the organ is cut or divided, these nodules project from and mottle the cut surface. In the spleen it seems oftener to occupy the centre of the organ; and sometimes the several masses are so numerous, and laid so closely together, that the entire splenic structure is merely a thin film spread over this new material, enclosing it as the shell does the kernel of a nut. On the intestine and mesentery the adventitious deposit or growth is met with in isolated patches. These patches are very marked on the external surface of the gut, and considerably elevated from the general surface of the tube. In some cases these nodules, particularly the larger, have been observed to communicate with the interior or lining surface of the tube. When most distinct, this communication appears to be the result of the direct removal of the mucous membrane of the tube; while from beneath this membrane tubercular-like material projects into the communicating tract or the bowel itself, and is always of a nodular and irregular character. The entrance of the cæcal tubes into the large intestine seems a favourite spot for the occurrence of this formation. Here, although these tubes are much increased in outward bulk from the presence of this growth, they are nevertheless of greatly diminished calibre, from the same cause. When increasing in extent, this new formation is more disposed to envelop the tube, progressing transversely, than to extend in the direction of the course of the canal. Examined with the microscope, this new material exhibits appearances very much akin to those of miliary tubercle: consisting of amorphous matter in small spheroidal masses, either applied one against another, or separated by fine lines of a homogeneous, transparent-looking material, forming in some instances an imperfect network, within which the spheroidal elements are grouped. This condition can hardly be said, however, to be perfectly uniform; as in many examinations there were distinctly observed, in addition to these spheroidal or lymph-like elements, larger and very irregularly-shaped masses of protoplasmic matter, containing many nuclei, each nucleus

enclosing a nucleolus. These nucleated masses possessed branched processes, which, as in true miliary tubercle, appeared to be continuous with the partitions or reticulum of the nodule. In some instances the small nodules were found of a firmer consistence, and more distinctly fibrous, probably cartilaginous, having in mass a gritty feeling. Having an idea (probably from reading a communication of M. Colin, published in the *Récueil de Médecine Vétérinaire* for July, 1862, of a somewhat similar condition of the liver of a rat) that these nodules or new formations might be verminous, they were examined with a view to ascertain the correctness of this supposition; but no affirmative indication could be obtained. Occasionally some of the larger masses found on the intestine or in the spleen might show softening or fatty degeneration; this, when occurring in the former situation, generally found means of discharge through a canal formed between the nodule and the interior of the bowel.*

* The diseases of poultry, from the greatly enhanced value and ever-increasing number and higher quality of this kind of "stock," are well worth the attention of the veterinary profession. It is evident that these maladies are on the increase, and probably new ones are being developed during the process of perfecting which many of the varieties of poultry are undergoing. It can scarcely be doubted that some of them are infectious, and there is consequently all the more need for careful investigation. Evidence in this respect is abundant; and the latest appears in the *Live Stock Journal* for December 22, 1876, where, under the heading of "The New Disease," a correspondent writes :—

"From what I hear through friends and others, this singular disease that appears to be following the wake of poultry shows this season, is assuming serious proportions. One of my neighbours has lost several birds since the Palace Show, and now I hear the late Canterbury Show is claiming its victims. I have also received letters from fanciers, in which they state their birds are dying in an unaccountable manner—the disease commencing in those which have lately returned from exhibition, and rapidly spreading through the yards. If this state of things continues, exhibitors will be chary of sending to shows. On speaking to a friend upon the subject, he suggested that the pens should be disinfected after each show. This struck me as a valuable suggestion, and I make bold to publish the hint."

In the body of this journal we have given a translation of the history of a poultry epizoöty in Bologna, Italy; in "Veterinary Sanitary Science and Police" (vol. ii.) will be found a section devoted to "Fowl Cholera."—Ed. *V. J.*

ENCYSTED BULLET IN A DOG'S FOOT.

BY T. D. BROAD, M.R.C.V.S., BATH.

On Nov. 23rd, 1876, a large spaniel dog, the property of a gentleman, was sent from a distance for my opinion respecting a lameness in the off fore-leg, which had existed since April last, when he was carefully examined by a surgeon, and since that time by a veterinary surgeon's assistant, but without the cause being detected. On examination I found, in front of the foot-joint, what appeared to be an ossific deposit, slightly movable. On cutting down upon this, I discovered that it was an encysted conical bullet from a pea-rifle, which on examination showed that it had struck some hard body and glanced off before piercing the skin of the dog. It must have entered, I think, at the upper part of the radius, and worked its way downwards. A few days after the operation the dog was quite free from lameness. Such cases are not common in civil practice.

AMENORRHŒA, FROM IMPERVIOUS VAGINA IN THE BOVINE FEMALE (?)

BY J. GERRARD, M.R.C.V.S., MARKET DEEPING, LINCOLNSHIRE.

The communication on the above subject by Mr. Macgillivray, in the December number of the *Veterinary Journal*, is worthy of notice, not only for the extreme rarity of such a condition in our patients, but for the deduction he draws from it and the doctrine he endeavours to inculcate.

Properly designated, according to Mr. Macgillivray's ideas, it should be that of "Amenorrhœa," from obliteration or closure of the vaginal canal, or suppression of the catamenial discharge.

This condition is sufficiently frequent in the human female, in whom the function of menstruation is an undisputed phenomenon; but it has never been observed before in any of the domestic animals, so far as I am aware—at least, it has never been recognised or acknowledged as such. Hence the importance of Mr.

Macgillivray's communication, if his deductions are founded upon proper premises.

The existence of a periodical sanguineous discharge in the lower animals, analogous in every respect to that in the human female, is not established. That a certain analogy exists between the menstrual epochs of the human female and the periods of œstrum in the lower animals, no one, I believe, will try to dispute. Their general resemblance is too evident to require demonstration, but the difference in degree, and even in kind, is so marked as to destroy their identity.

Hundreds of domestic female animals show no trace of discharges of any kind at their œstral periods, and in those in which it is observed it is nothing more than a mucous exudation sometimes tinged with blood. A sanguineous discharge, to the extent and with the regularity of the human female, is never observed. Had such a periodic discharge been a normal condition of our female domesticated animals, there would have been no room for doubt about it by this time; but, indeed, all experience confirms the contrary.

Fleming, in his "Veterinary Obstetrics" (probably the most learned and elaborate work on the subject in any language), strives hard to establish the analogy, by quoting foreign authors who say they have observed it; but the proof is rather far-fetched, and is not very obvious when the microscope is required to distinguish blood-corpuscles in the red-coloured mucus of the vagina and uterus.

A discharge so profuse as that which Mr. Macgillivray describes in his case,—a two-year-old heifer, which the owner or attendant said had never been put to the male,—points to a rather different cause as its origin than that of suppressed catamenia from occlusion of the vagina. It would be extremely interesting to know what could have caused such a stricture of the passage, in such a subject.

Such occlusions do occur in the human female, as a result of difficult parturition, and are usually due to inflammation excited during the process by the long-continued pressure of the fœtus on the maternal soft parts, and which ends in sloughing and adhesion of opposing raw surfaces. And even in the cow and

mare, when excessive force has been applied too soon in bringing away a calf or foal, laceration of the passage has resulted ; and this has recovered, but in a contracted condition, so as to render them useless for breeding purposes for ever after. But I have never heard or read of anything like a complete occlusion as a result of injury, or even congenital malformation in the shape of imperforate hymen, either in the equine or bovine species, inducing such a condition as Mr. Macgillivray describes. If it had been occlusion from inflammatory action arising from any injury whatsoever, it would have scarcely been accomplished without some one being cognisant of it ; unless, running in the open fields —as they often do in the Banff district—some male had interfered with her, which is very probable, notwithstanding the owner or attendant's answer in the negative. And if it had been so, the cicatricial tissue would not have resisted such force as Mr. Macgillivray says he had to use to reach the os ; and if it had been a congenital malformation, as he says he thinks it was, I do not think he could have forced the passage so easily and so well as he did, and found the os and uterus in the condition he says they were.

It was extremely unfortunate he did not see the parts after death ; for it is evidently a rare case, and would have made a unique specimen.

Whatever may have been the cause of the occlusion, whether congenital or induced, the nature and amount of the fluid, as stated by Mr. Macgillivray, are inconsistent with its being the "œstral products" of a two-year-old heifer. In the first place, the "*immense*" quantity is against the deduction that it was "*œstral products.*" Even if we admit that this is a fixed quantity, and invariable in occurrence—which we do not—the quantity in this case would be far greater than could accumulate from this source, even although the animal had reached the state of puberty at twelve months, and had been in "heat" regularly every three weeks, which is about the ordinary time of recurrence in the bovine female.

Secondly, the nature of the discharge, "*sero-sanguineous,*" is inconsistent with its being "*œstral products*" analogous to that of the human female. The fluid in these cases is very viscid and

glutinous, dark and tarry, and does not flow out except through an opening of considerable size. Nor is a "*sero-sanguineous*" fluid the healthy product of a mucous membrane. In what is known as "Dropsy of the uterus," the fluid is of a *sero-* or *muco-purulent* kind—never sero-sanguineous. A number of cases of this nature are reported in the *Veterinarian* for 1873, and commented on by Mr. Cartwright, Whitchurch, Salop, than whom few professional men have had larger experience in this kind of practice. In none of the cases referred to is the discharge given as of a sanguineous nature; and they are all supposed to have been caused by imperforate hymen, if ever such a condition exists in the female domestic animals.

I am inclined to think with Mr. Cartwright, who endorses the view of Mr. Relph, of Sebergham, that it is the result of mechanical injury sustained in copulation. Further, I believe these cases are more of the nature of *Hæmatoma* than suppressed catamenia, or Dropsy of the uterus either.

The "*sero-sanguineous fluid*" described by Mr. Macgillivray unmistakably proves this; and the few cases I have seen of a similar kind, as to symptoms, subjects, and appearances, confirm me in the belief that his was of this nature. All the cases that have come under my notice have been in heifers after being put to the bull about a fortnight or so—with the exception of one in a mare after foaling; and I think it extremely probable this may have been the cause in Mr. Macgillivray's case, although neither the owner nor attendant were aware of the fact.

This pathological condition, which may occur in pregnant as well as non-pregnant animals, has not been treated of by any lecturer, or noticed in any text-book of veterinary science with which I am acquainted; nor is there much notice of it in the whole wide range of modern English obstetric literature until the time of Simpson, who, I believe, was the first to recognise and distinguish it from pelvic Cellulitis, the tumour of which always contains pus.

As described by him, "it consists essentially of rupture of some of the veins or arteries that supply the ovary, and pass to it between the layers of the broad ligament. The blood escaping from the ruptured and sometimes varicose vessel, infiltrates into

the cellular tissue of the broad ligament and those neighbouring parts of the pelvic cellular tissue which communicate freely with it—forming there a swelling or tumour composed of this effused and incarcerated blood."

I recorded a case of this nature, occurring in a mare after foaling, in the *Veterinarian* for 1874. I shall not further intrude on your space with details, than to say that I think this theory affords a more plausible and probable explanation of such cases as the one recorded by Mr. Macgillivray, than the assumption of a cause that almost every one knows does not exist, or exists in such proportions as would make the condition described an impossibility.

My object will be gained in drawing the attention of practitioners having such cases, to the subject, trusting that some one may be induced to record the results of their cogitations and experience thereon.

CASE OF IMPERVIOUS VAGINA IN A HEIFER.

BY RICHARD WEST, M.R.C.V.S., REDHILL.

It is stated in Mr. Fleming's "Text Book of Veterinary Obstetrics," that the existence of a menstrual discharge in the lower animals is frequently denied; but I think the case recorded by Mr. Macgillivray in the *Veterinary Journal* for December last, together with the following somewhat similar case, must go far to convince the most sceptical that something analogous does exist in the bovine species.

On August 9th I was requested by Mr. Harker, of Nutfield Marsh, to see a heifer that was unable to calve. I found her straining violently, and evidently in labour. I proceeded to examine her *per vaginam*, and was surprised to find I could only insert my fingers about three inches, when the vaginal canal appeared to end abruptly. I examined the parts very carefully. The vagina appeared to be quite impervious, and I could not discover the slightest trace of a passage to the uterus.

On inquiry, I was informed that the heifer was one of a lot that had been turned out in the spring with a bull, and the owner thought she was in calf; so I came to the conclusion that the fœtus was dead, and abortion was prevented by the state of the vagina. Not thinking it advisable to incise the parts, I recommended the animal to be kept quiet, believing the pains would gradually subside. I saw her occasionally; the pains continued at intervals, and she gradually lost flesh.

At the beginning of December I saw Mr. Macgillivray's case in the *Veterinary Journal,* and thinking it was like this one, I decided to cut through the obstruction. So on December 2nd I again visited the animal, and made an incision into the obstacle, which appeared to be very tough muscular fibre, and with great difficulty I partly incised and partly tore a passage to the os uteri. This I found to be quite closed, and with much patience I managed to insert a whalebone sound and dilate the os a little. When this was accomplished, a large quantity of reddish-brown fluid, smelling very offensively, was ejected, and the owner still thought there was a dead calf in the uterus. I therefore proceeded to dilate the os with the dilating bags, and succeeded in inserting and distending the two smallest, but could not distend the third one. On exploring, to discover the cause of this resistance, I found what appeared to be a tendinous band across the superior part of the os, which I was unable to stretch in the least, although I used considerable force in the attempt; but I easily divided it with a slight touch of my knife. The os at once dilated, and I found the uterus about three times its normal size, having a rough, harsh feel; but I could not detect the slightest trace of its having ever contained a fœtus.

The heifer continued to eject small quantities of the fœtid matter, so I syringed out the uterus with a solution of Condy's fluid in tepid water. She continued to strain violently—so much so as to force out a portion of the rectum; and I feared inversion of the uterus would take place, so I gave her some Tinct. Opii, and put on a truss. The straining continued for two days, but she afterwards appeared to be quite well.

I should think at least two quarts of the fluid escaped from the uterus; and this I am of opinion should have come away as

a periodic discharge, but was prevented by the impervious state of the vagina, which must also have rendered impregnation impossible.

IRREGULAR STRANGLES AND RUPTURE OF THE STOMACH.

BY JAMES LAMBERT, M.R.C.V.S., 17TH LANCERS, ALDERSHOT.

A HANDSOME brown mare, three years old, No. 44 of H Troop, 17th Lancers, was first admitted to the infirmary stables, Island Bridge Barracks, Dublin, on the 30th July, 1875, for Catarrh. There was cough, sore throat, and muco-purulent nasal discharge. She was treated by the application of stimulating liniment to the throat, and mash diet. On the 3rd August, the respiration and pulse being accelerated, mustard was applied to the throat and breast. Next day she was much better, and was discharged cured on the 24th August, having had rest up to that time in a loose box. On the 3rd September following, she was again admitted for Catarrhal Fever: pulse 54, respiration 16, cough and sore throat. Ammoniacal liniment was applied to the throat. In the evening she lay down and rolled, looking round at her sides; and was evidently suffering from abdominal pain, though not of a severe character. Pulse 70. Received in drench, Spts. Æth. Nit. ʒij., Opii Tinc. ʒij., Aqua Oi.; and an enema was administered. In three hours, being still a little uneasy, the draught and enema were repeated, and she soon appeared free from pain.

The mare gradually improved up to the 11th September, but the pulse continued between 50 and 60. However, the animal fed well, and the respirations were only eleven per minute. Green forage was given in addition to the usual food, and she was kept in a good, well-ventilated, comfortable box. On the 17th September she lay down in pain. Enemata gave relief, and she passed some soft fæces. Next day there was cough, but no pain. On the 19th September she was in abdominal pain. Stimulants and antispasmodics were given, and hot-water cloths

applied to the abdomen and chest. Enemata were administered. She became easy.

Nearly every day she had colicky pains, for which Ol. Lini. and antispasmodics were given. She was often found lying down, stretched out, as if suffering dull but not violent pain; and I remarked that the straw lay in a circular direction in the box, as if she often walked round it. I suspected that she was suffering from mesenteric disease.

On the 1st October, at 2 a.m., the sentry on guard near the box heard the mare to be uneasy, and he called Farrier-Major Johnson, who administered a colic draught and enema. In twenty minutes, as she was no better, I was called up, and found her in great pain, but the pulse was only 44. When standing, she assumed the attitude of shrinking from the right side, bearing all the weight on the near fore and near hind legs. When moving, she turned to the right. The Farrier-Major had observed an eructating noise in the throat. I ordered Ol. Lini. Oi. and Opii Tinc. ℥ij., and enema. As she obtained no relief, ammoniacal liniment was applied to the abdomen, followed by hot-water cloths. About half-past six the eructating noise was heard in the throat every few minutes—about every ten. It was like the noise made by water being forcibly projected up a long tin pipe. On observing the left side of the neck, it was found that, coincident with the noise, the œsophagus was dilated by fluid propelled from the stomach, which was stopped by the *velum palati,* and again descended: in fact, the mare was vomiting, although *nothing* escaped by the mouth or nostrils. After a time the noise and dilatation of the œsophagus occurred about every three minutes; *but no fluid escaped, although it could be distinctly observed ascending and descending the œsophagus.* Pulse 60, and full, and from the time I was called there had been extreme agony. Prognosis: Rupture of the stomach.

At half-past seven she began to strain most violently—so much so as to project urine two yards from the vulva while she was lying down. The straining was fearful. At a quarter-past eight a.m. she stood up, trembled violently for about two minutes, then fell, and, after a slight struggle, died.

At half-past eleven o'clock, the same morning, the *post-mortem*

examination was made. The stomach was ruptured in the villous portion for about nine inches, and the food was plastered outside it and the omentum, and between the intestines. The villous coat was much injected. Between the layers of the mesentery of the duodenum and jejunum were three enormous abscesses, full of what may be termed characteristic Strangles pus, quite four quarts, of a whitish-green colour and creamy consistency. The walls of these abscesses were mostly an inch, or an inch and a half to two inches in thickness; so that the whole, when opened and lying on the ground, was as large as a good-sized chair cushion.

The cause of the frequently recurring colicky pains was thus disclosed, for the tumour pressed on the intestines and interfered with their action. The rupture of the stomach was probably caused by its being compressed between the tumour and the diaphragm. I am of opinion that the abscesses were the result of Irregular Strangles.

The food in the intestines was throughout well digested. The thoracic contents and the other internal organs were healthy.

It may be again observed that none of the contents of the stomach, forced up the œsophagus, at any time escaped by the mouth or nose.

VETERINARY OBSTETRICY.

BY W. A. COX, M.R.C.V.S., ARDWICK, MANCHESTER.

Twists of the Cervix Uteri—double, single, and spiral.—Double twist is more common in cattle; in all animals delivery is impossible. Particulars of cases of this kind are mentioned in the November issue of your journal. *Single twist* is not very unfrequent in cattle and sheep—scarcely, if ever, seen in other animals; in the former delivery can be effected by drawing the head and extremities, previously corded, through into the passage, guarding the protuberances with the hand, so that they do not catch the shelves of membrane: the pressure of the fœtus frequently

uncoils the twist. In sheep the difficulty is greater, owing to the smaller size of the animal. *Spiral twist* is from before backwards, several folds of membrane passing in a worm-like manner in the direction mentioned; the hand may be passed easily through the cervix except when the animal "pains" herself. When the orifice, instead of dilating, contracts and retards rather than assists delivery, in some cases the pressure is so great as to temporarily remove all sense of feeling. The os uteri and entire cervix should be anointed with the following: Ext. Belladonna, ℥ij.; *lard,* pure, ℥ij.; well rubbed down; if this does not prevent the inordinate contraction, chloroform should be given, by inhalation, when it will be found that delivery may be effected; but it is necessary to employ considerable traction.

Adhesion of the vaginal walls and apparent obliteration of the passage is occasionally found. This is puzzling to a young practitioner,—a wall of flat membrane without orifice presenting itself. Careful examination will show that the lateral mucous surfaces of the vagina have become attached, probably from some irritation at the period of copulation, or as the sequel of an attack of Gonorrhea. In all cases of this kind that I have met with, persistent pressure of the knuckles—the fingers and thumb being tightly closed—has sufficed to separate the adhesion.

Vaginal tumours are sometimes seen; they are frequently cysts filled with serum; but before puncturing them their nature should be correctly diagnosed, or it may be found that they are aneurismal or varicose. In some instances a ligature has been passed around them. It is seldom that they interfere to any great extent with delivery.

Prolapsus Cysti is more frequent in the mare than in any other animal: I have known instances where it has been ignorantly punctured, from an idea that it was a fœtal membrane. Its nature may be diagnosed by tracing it to the meatus. It is easily reduced by pressure at the fundus; and the animal must be placed in a narrow stall, the hind-quarters being raised from one to two feet. A dose of alterative and sedative medicine should be given; a plug or two dipped in cold water placed

over the meatus and kept by hand for some short time in its situation.

Deposits of bone the result of injury.—In mountainous districts these are not uncommon, and are the result of fractured pelvis, from falls. In some the callus is so large as to block up the passage. No assistance is available.

Constriction of the vulva is found in young animals at the first labour, or is the result of peculiar conformation. The repeated application of hot-water cloths, followed by the ointment previously mentioned, will cause it to expand. Sooner than injure the dam by a forcible removal of the fœtus, the fore-extremities and viscera should be removed, and its outer surface well lubricated with lard before the employment of force. In bitches warded by dogs of a larger size, considerable difficulty is encountered in removing the pups. Dilatation of the structures may be assisted by the repeated use of the hot bath, as before suggested.

Certain conditions of the Fœtus or its membranes, that even when it is straight retard its delivery.

Emphysematous, "wind-blown" or "puffed" fœtus, is a condition due to the death of the fœtus and decomposition of its tissues; this condition originating primarily from a peculiar condition of the dam. These cases are known by their increased size, often to an enormous extent,—in one instance attaining such a size as to rupture the entire length of the uterus.

The dryness of the skin and the bulk will often, even if the fœtus be straight, prevent its expulsion or easy removal: as assist-

FIG. 1.

ance, the entire surface should be lubricated with a fatty agent; and for this purpose hog's lard, without salt, is the best. It may be necessary to remove the fore-extremities, employing a knife (Fig. 1), fitting with a ring on the forefinger of either hand, or

any finger suited to the operator; at the lower and palmar surface of the instrument is a small hole for the introduction of string—this being carried loosely down the palm to the wrist over the back of the hand, and tied so as to allow plenty of wrist play. This will prevent the knife being drawn off. When introducing it, the end of the thumb is placed against the point of the knife, and it is passed along the vagina close to the fore-extremity, and up to the superior part of the scapula above the spinous ridge; the thumb is then removed, the point inserted into the skin, and drawn down to the fetlock. The skin is then detached with the points of the fingers and thumb, taking especial care that the elbow-joint and well up on the scapula are quite free from attachment; or disarticulation may take place at the first or second joints, and the portion remaining may very much impede delivery. The skin must *not* be excised from around the fetlock until the entire limb is skinned. This being done, a slip noose is passed over the fetlock and the limb drawn out. The skin is then pierced, and a cord tied through and around it. It is often necessary to cord the head, passing the noose over, past the ears; the knot should be under the throat, but must be drawn tight by an assistant whilst the hand of the operator is pressed on and closing it, or it will be drawn off; occasionally the poll will "cudge" or lie back unless a small hook be inserted in the orbit.

The knife mentioned is available for many purposes, being easier of manipulation and safer than any used. In the cases just mentioned, if required, it may be employed to open the chest, an incision being made at the most prominent part.

Hydrocephalus, or Water on the Brain, is occasionally found, sometimes being of large size, the abnormal prominence equalling the head in bulk. The best method is to incise the skin with the thimble knife and evacuate the sac.

Ascitis, or Dropsy of the Belly, is rare. It is extremely difficult to pass an instrument down the throat, as suggested by Prof. Simonds in his "Essay on Obstetricy." To do this the point must be extremely sharp, and sufficient control could not be maintained over it during its passage. If carried in a right direction, it will be found that the pressure from without, from

the uterine contractions, and the obliteration of the passage by the movement of the fœtal viscera, will prevent the fluid following the withdrawal of the instrument. A better plan will be to open the abdomen from without, trusting to the contractions of the uterus to expel the fluid that is emptied into it.

There is a condition of the fœtus that is improperly termed *Hydrops uteri*, instead of true Dropsy of the uterus: it is *an excess of fluid* in the *allantoid membrane*, and is sometimes of such volume, and distends the abdomen to such an extent, that it prevents the animal passing through an ordinary-sized door-place; and in several instances I have known it (the abdomen) reach almost to the ground. This accumulation of fluid seriously interferes with the general health; "pains" of parturition are seldom exhibited, owing to the great distension. Examination will probably show the os uteri partially open, and the fœtal membranes, commonly called the "water" or "calf bladder," pressed against it—but of such size as to prevent its passage through the vagina. In this case the membranes must be ruptured. After the escape of the fluid it is often difficult, owing to the previous distension of the uterus, to touch the fœtus. When this is the case, the abdomen should be drawn up toward the spine by a piece of sacking, when it can more easily be reached. It is seldom that there is any difficulty in delivery, owing to the small size of the fœtus.

After delivery the abdomen should be supported by sacking drawn round the body and laced over the back, tightening as required; stimulants should be administered. If the animal is ill from the pressure, and the os uteri is not dilated, a long canula having a stiletto should be introduced in the palm of the hand and passed alongside the finger through the opening, and the contents evacuated. This will produce abortion, but is the only chance of saving the life of the animal.

Schirrhus Chorion.—This condition is occasionally found. The membrane is felt to be free from the uterus—enveloping the fœtus, as it were, in a leather bag, nothing of its form being detectable. The outside membrane must be incised, and the fœtus placed in a natural position and delivered. Parturient pains are seldom violent, nor can the fœtal membranes be forced

into the vagina. This is another instance where an early examination is demanded.

Illustrative of this is a case of a cow belonging to Mr. Smith, of Birdsgrove. Her proper period was past, but without exhibiting "pains,"—although she had been "off at the hips," and the udder filled. The subsidence of these symptoms without any appearance of the fœtus led to my services being solicited.

Examination proved the fœtus to be rolled up in a leathery membrane, detached, and like a huge ball. This was opened, the head and feet corded, and with the employment of a great amount of traction it was extracted. There was no interference with the health of the animal.

(*To be continued.*)

VETERINARY EDUCATION.

BY A VETERINARY STUDENT.

THERE is a complaint springing up on all sides of the non-appreciation of the veterinary profession by the public; and the question upon which this complaint is based is one seriously troubling the mind of every veterinarian who has the proper professional spirit. It is one which would not long trouble them, were there enough professional pride among them. Something is due to public bigotry and prejudice, but more to veterinary ignorance. The scientific standard of the schools has never been such as to meet or merit much recognition from those of the sister profession. Veterinary medicine, instead of being the foundation on which human medicine should stand, has been a sort of bastard parasite, clinging very loosely to the latter for support. Men and youths have attended the veterinary schools with no higher ambition than to become "horse doctors." To learn enough to make a living has been in general the *acme* of their ambition. This state of things exists at the present time, with very few individual exceptions; and so long as it continues, men may complain, and write pages, or even books, about it, and it will avail but little. The cause for it, first and foremost,

rests with the schools. The object of these has been, and is, to attract students—first to help pay expenses, and secondly to give the proper education; and in all this an unfortunate rivalry exists. Another misfortune is that the schools have never been properly started; while another is that there are too many of them. For the advancement of science, a school should be so funded that the directors and professors need have but little cause to trouble themselves about the number of students necessary to pay the expenses. The union of the best talent of the four schools in England and Scotland in one school, properly funded, would mark the advent of a new departure in English veterinary science. It should be done by direct donation from the wealthy horsemen and stockmen of Britain, and by handsome support from the Government. With such enthusiastic friends of scientific advancement as Mr. Fleming, Colonel Fitzwygram, and others, the task should not be so very difficult.

The educational standard for applicants is in no way high enough to elevate the profession, and it allows the entrance of too inferior men into it. Reading, writing, arithmetic, and grammar only, are simply ridiculous requirements; and any school certificate would be sufficient for these. To read in Latin and Greek with moderate proficiency, and German and French understandingly, should be positively insisted on; but here an allowance should be made in favour of the student, as regards these latter languages: he should be required to read them in medical works, and it should be so advertised. Then young men fitting themselves for the medical schools could so direct their studies as to acquire not only German and French, but likewise some insight into medicine at the same time. The reading in the general literature of these countries is, in this case, of secondary importance, and can be acquired at any time during life. It is well known that the latest additions to medical knowledge are never to be found in text-books, but in reviews and journals; and no man can be a really scientific practitioner who does not diligently study these. And with all honesty we must admit that the French and German veterinary periodicals are not only better than the English, but are much more

numerous. Such periodicals offer the best opportunity for exchanging ideas, for confirming doubtful points, and fixing those which become the facts of advancing science.

There are two classes of men most commonly met with in a profession: the truly scientific, uniting theoretical and practical knowledge; and the mere practitioner. As yet, so far as the English veterinary profession goes, the latter is about all we have had. The value of Latin and Greek to the future advancement of the science cannot be over-estimated. Of late we have committed a great mistake in thinking that a knowledge of English nomenclature was sufficient; and some have gone so far as to say that it is all that is necessary. As scientific knowledge becomes more diffused, it will also become more exact; and the necessity for an international nomenclature will become more and more requisite. So that our professional leaders should see to it that the rising members of the profession are properly fitted to carry on their work. The value of a high degree of general education, such as will fit young men to be ornaments to society, has never been sufficiently emphasized among us. And it is to this that the non-appreciation of the public may in some measure be attributed. Veterinary surgeons could talk "horse," but of general science and knowledge they knew very little.

A truly educated professional man should be also able to give an intelligent opinion on all subjects interesting to mankind. By this means he will win friends and respect, as a member of cultivated society. This requires study and application on the part of the student. Among those subjects most to be recommended, the Evolution Theory, and the writings of Darwin and Huxley, are to be well studied; those having especial relation to the profession are the "State of Animals and Plants under Domestication," by the former, and the "Comparative Anatomy of Vetebrates," by the latter; but their other writings cannot be neglected. Then we have those subjects which are yet to become *vital* in the course of human development—"The Relation of Man to the State," and "The Relation of Woman to the State," "Church and State," "Political Economy," and the general history of the nations of the world. To this end, Stuart

Mill and Herbert Spencer must be studied, and the nations' history can be best read in their religious progress. To this end such works as those of Max Müller, Strauss, Rénan, and others, are to be recommended. When we have acquired this, then, and not till then, shall we be fitted to take our place as members of an enlightened society.

Let us now return to those branches of education bearing directly on our professional course of study. But before doing so, I desire to offer a strong protest against the value, in an educational point of view, put upon the time served in an apprenticeship by the English schools; for it is more hurtful to the scientific advancement of the profession than beneficial. It will certainly be found true by experience that, other things being equal, of two youths who have attained sixteen years of age, both intending to enter the veterinary profession, and at this time in educational requirements and mental power as near as may be alike,—if one enters into an apprenticeship, and the other gives three years to the study of special branches to be alluded to hereafter, and the rudiments of which should never be taught in medical schools—Botany, Chemistry, and Physics, with the languages before alluded to—the latter will be far more an honour to the profession than the former. The first. will always be alluding to what he learned as an apprentice with Mr. *So-and-so,* and will never have a high idea of true science. It seems to be overlooked that Mr. *So-and-so* acquired his knowledge perhaps thirty or forty years ago, and has become rusty and antiquated in many things; he only too often looks on the later improvements as "new-fangled notions"; and our student is too apt to become impregnated with those ideas. I do not infer that Mr. *So-and-so* may not be a good and successful practitioner, but to me his influence is bad. Six months' stay with him after graduating would indeed be valuable, as our student could then intelligently compare the old and the new.

The schools should be full of life; they should be filled with the spirit of the future; and they ought to use the present and the past for that end. All respect is due to things that are old; but in science they should be continually tested by the burning crucible of fresh and advancing knowledge; and not become, as

is too often the case, dead weight, clogging the wheels of science. That no student should be admitted to college before he is nineteen years of age, ought to be self-evident; as, if he is received before that period, it throws him into practice before the reflective powers have been sufficiently developed. The aim of the schools should be entirely scientific professional advancement, and every student should be sent into the world fitted for that end. That the majority will seek practice, and money be their aim, is human; but the duty of the schools is not changed thereby. It may be objected that such a course and such educational requirements would shut the doors of our schools to all but the wealthy, and that poor but able students would have no chance. But it has been suggested that the Government should be a handsome contributor to the school fund; and for this a certain number of such students could be admitted gratis yearly, and educated at the State expense; this they might be made to repay by a certain number of years' service as Army Veterinary Surgeons, which would be a public benefit.

I have alluded to Chemistry, Physics, and Botany, and said their rudiments should not be taught in medical schools. To illustrate my meaning, we will take chemistry; and what is said as regards that can be made to apply with equal force to the others. Chemistry, so far as my experience and acquaintance goes, seems to be a bugbear to medical students, and they might well be rid of it. It is only exceptionally that one meets a practising medical man who really knows anything of it. A few urine tests, and the simplest of analyses, are the most they attain to. Few profess any knowledge, and still fewer manifest any desire to acquire any of this branch of our studies. Yet in all the schools we are required to study chemistry, and in all of them most students give as little time as possible to it. Exceptionally a student displays a special aptitude for it, and acquires a very creditable reputation thereby. The reason for this is obvious. Anatomy, histology, pathology, surgery, etc., are to the student absolutely necessary, as without a knowledge of them he knows he cannot obtain a livelihood; therefore he studies them more or less cheerfully, and as his interest in his profession or worldly success inspire him. Chemistry he looks

upon as an interpolation in the professional curriculum, the utility of which he seldom seeks to know. The reason for this is that chemistry, in nearly all medical schools, is taught in a different manner to medical science. Elementary chemistry is taught, and not strictly medical chemistry. A knowledge of elementary chemistry, botany, and physics, should be required of the applicant for admission to the veterinary schools; and the long and tedious lectures now given, and which carry him through the whole field of chemistry—organic and inorganic—should be abolished. This abolition rests with the school directors. That chemistry is unnecessary, the writer would be the last to affirm. Chemistry is a science apart, which requires special study and application, and does not, in its elementary parts, belong to medical education. Up to the present time our system of education has been wrong. The study of the elementary sciences should be begun young; and at about sixteen years of age the youth should be so educated as to take up those special studies bearing more directly on his future course in life. This course should be truly scientific, and have special reference to his admission to those institutions which he will then enter. The course in the medical schools should be strictly that part of these sciences belonging specially to medicine. Medical chemistry would now be interesting, and the students would be no laggards. Toxicology should form a very important part of it, and the action of drugs on living animals should be known to every student. I know I come in conflict with the opinions entertained by anti-vivisectors in this matter; but how a better use for stray curs and half-starved cats, rats, and such nuisances, can be had is hard to discover. Students should make practical analyses of the stomachs of such animals, and write out these analyses, describing the action of the drug as a medicine and as a poison—the toxic phenomena and the pathological alterations in the tissues. The best of these reports in each case should be read by the professor to the class, to which he would add the necessary remarks and comments. The chemical properties of all kinds of food should be perfectly understood, as well as the testing and analysis of all the fluids of the body. Botany, when taught in the same way, becomes very nearly

allied to chemistry. The study of physics at the medical school should be only applicable to the animal body—its movements, etc. By such an arrangement, it seems to the writer that our science would make rapid advancement, and our whole course of study would be a unity, which it certainly is not under the present system.

ANEURISM OF THE POSTERIOR AORTA, RUPTURE AND DEATH.

BY G. A. ROLLS, M.R.C.V.S., ARUNDEL.

THE history of this patient is given as follows by the owner:—

"Tom was a piebald pony, about fourteen hands high, and thirteen years old. He was bred from a circus mare, and passed through several ownerships before he came into my possession, about six years since. He was a stout, well-made pony, very fast and active, always carried plenty of flesh, and at times was very fat. Though a quiet worker, he was a very restless starter; but a thorough good roadster, and to the last would bravely collar a heavy load. I now come to the only symptom I remember, and which at the time I thought nothing of: *When on a long journey, and nearly tired, he would appear to knuckle over with his near hind fetlock-joint, as if from a slight cramp in the sinews.* I have noticed this some five or six times during the last two years. He showed no other symptom, and never had a day's illness whilst in my possession, or to my knowledge previously. The last few weeks of his life he seemed at times a little sluggish, or, more properly speaking, sleepy. On the morning of the day of his death he ate his corn and appeared perfectly well; but about 9 a.m. he lay down and could not get up. He was in considerable pain, and appeared to be suffering from an attack of Colic. I gave him a Colic draught, when he immediately became delirious, and fell first on his off and then on his near side very violently, then dashed at us and fell headlong. As soon as we got him up the pain ceased; he was perfectly quiet, but gradually became very cold and trembled so that he could scarcely stand. I noticed about

this time (11 o'clock a.m.) that his mouth and under the eyelids had lost all colour."

When seen by me, in response to a telegraphic summons, at 2 o'clock p.m., I found him standing quietly in his stall, ears cold, pulse extremely quick and only just perceptible, buccal and Schneiderian membranes pallid, muscular twitchings plainly visible above the elbow-joint, breathing normal. After hearing the above history, I proceeded to make a rectal examination, when I found an enormous pulsating tumour in the situation of the terminal portion of the posterior aorta. I could not feel its anterior extremity, as it extended beyond my reach. There was no difference in the temperature of either hind extremity, so far as I could judge, though the whole surface of the body was cold.

Diagnosis.—Aneurism of the posterior aorta; probable rupture, and approaching death.

Treatment.—Perfect quiet and absolute rest, warm clothing on the body, and the administration of diffusible stimulants.

The owner continues: "After you left he became gradually weaker. I saw him several times, but he seemed much in the same condition; no fresh symptoms. About 12 o'clock at night he wandered about strangely, was very quiet, ate a mouthful or two of bran and drank a little chilled water; after this he never moved, but fell dead without a struggle. The duration of his illness was about sixteen hours. He was noted in our district as one of the best ponies for miles round."

Post-mortem Examination.—A large quantity of thin bloody fluid in the abdomen, and a considerable amount of loose clotted blood. An enormous blood-clot held by the surrounding tissues in apposition to the inferior surface of the posterior aorta. The blood-clot I should think measured a foot and a half in length, by about the same in depth. The organs of the body were generally healthy.

[The specimen of Aortic Aneurism sent us by Mr. Rolls is one of the largest we have ever met with; and, in addition to its great size, it presents other points of much interest. When received, the vessel was still attached to a portion of the vertebral column—and so firmly that at first sight it almost appeared

as if a bony union existed; but it was found, on careful dissection, to consist of strong fibrous bands, formed, no doubt, from the original connective-tissue attachments.

The measurements of the portion of vessel sent, after it had been kept several days in a strong solution of carbolic acid, for the purpose of preservation, and then stuffed with tow to dry it, were as follows :—

Total length of vessel 15 inches.
Length of aneurismal sac 9 „
Greatest circumference 16½ „

The greater portion of the wall of the vessel contained bony deposit, which rendered it like a shell, showing no tendency to collapse in its empty state; this deposit was thickest and strongest on the superior or vertebral surface, indicating that in all probability this was the starting-point of the morbid changes in the arterial coats. On the inferior or abdominal surface, where these changes had not proceeded quite so far, there existed three smaller secondary aneurisms, which appeared to be of more recent date. The largest of these was situated at the point of the greatest circumference, and was quite the size of a hen's egg; the other two were situated at the origin of a *branch*—the posterior mesenteric artery. Very little or no bony deposit could be found in these secondary sacs; which probably indicates that while bony deposition was going on in the greater part of the dilated vessel, portions of the coats still remained tolerably healthy and became dilated afterwards, and thus formed these protrusions from the general sac.

A small portion of the aorta anterior to the aneurism, which we received, showed no sign of disease except in close contiguity to the sac; but behind the aneurism the aorta was much dilated and the parietes were so much attenuated that they had gradually given way, and the blood had dissected for itself a channel through and between the different coats into the connective tissue surrounding the vessel.

Mr. Rolls' specimen shows now, while drying, the same greasy condition referred to by Mr. Cox, in describing a similar case in the last September number of the *Veterinary Journal*.]

FRACTURE OF THE METACARPAL BONE AND *OS CORONÆ*, WITH SUCCESSFUL UNION.

BY J. W. HILL, M.R.C.V.S., WOLVERHAMPTON.

On the 19th of October last, I visited by request a black two-year-old waggon-gelding, the property of Mr. Wilson of Aston,—he describing it as being very lame and having a thick leg. On my arrival I found the colt standing, so to speak, on three legs; the near fore one being immensely swollen, the foot barely touching the ground with the toe, and the animal in great pain. I was informed he had been lame for three weeks, and was so discovered one morning in the stable—which, I should observe, was in construction similar to a cowhouse, the manger being low on the ground, in which the animal could easily put his feet, with wooden rails placed lengthways behind.

I diagnosed it as a case of fracture in the region of the fetlock-joint—probably in the first instance without separation; but to what extent could not say, on account of the swelling. With the object of reducing this and relieving the inflamed state of the limb, I bled him freely from the foot, and ordered hot fomentations. On my next visit, the 23rd, the limb was sufficiently fine for me to detect fracture with complete separation at the lower end of the large metacarpal bone, and also a longitudinal one of the *os coronæ*. The crepitus in both could be distinctly heard and felt; and, to use a common expression, the leg was dangling loose.

The swelling being still too considerable to apply pressure, I returned home, and on the following morning I put the animal in slings; and the condition of the limb being improved, I set the fractured parts in the following manner. First I wound a bandage, smeared at each turn with pitch, round and round the coronet; I then applied a wood splint in front (padded) from the hoof to the knee, and a similar one at the back of the leg. Between each, on either side, I placed a stout leather one, and made the whole secure with pitch bandages.

On the 27th I found the patient doing well, and with but little swelling or constitutional disturbance. I did not see him

again until the 26th of November—being informed in the meantime by Mr. Wilson that he was doing well, contented in the slings, splints remaining as placed, and that occasionally he threw weight on the leg.

I now removed the whole, with the exception of the coronet bandage, and was pleased to see my patient, when taken out of the slings, walk moderately sound, each step he took being firmer and better. In a week's time the remaining bandage was removed, and on 6th December a blister was applied to the leg and coronet, after which, when ready, he was to be turned out at grass; and I am now informed he is as good as sound.

LUXATION OF THE TRAPEZIUM.

BY THE SAME.

THE above being, I believe, in veterinary practice exceedingly rare,—in fact, I have no recollection of such being recorded in any of our works,—it affords me pleasure to send you a short outline of the case.

The subject is a black mare, the property of S. Loveridge, Esq., of Dane's Court. On the 9th of November last she was out with the Albrighton hounds, and in the evening of the same day I received a telegram from Stafford saying she was coming to Wolverhampton by train, as she was very lame. Examination on her arrival at the infirmary showed the injury to be in the near knee; and at first I expressed fears of fracture of one of the small bones. On flexing it, however, the trapezium was found to be easily movable upwards and outwards. There being some amount of swelling, with effusion and pain, round about the knee, I ordered the mare to be tied up, and hot fomentations applied to the joint; the following morning to have a light dose of physic. By that time the luxation was more than ever apparent—the bone being perfectly loose. The lameness, however, except on first starting, was not excessive; and she was quietly removed to her own stable, fomentations and rest to be continued.

On the 14th, the leg was so swollen and painful that I deemed it advisable to bleed her from the toe, with considerable benefit. In a fortnight's time, the swelling of the knee having gone down and become cool, gentle walking exercise was attempted; but the result was not satisfactory, so she was again kept quiet. There being now but little to be observed, beyond the luxation with slight effusion, I suggested the advisability of a blister, both as a means of keeping the knee quiet and also as a counter-irritant and absorbent; but being in the middle of the hunting season, it was thought desirable to try other measures first. Cold water and evaporating lotions were had recourse to, with quietude; and in a fortnight walking exercise was recommenced, and within the last week she has been ridden a few times for short distances. There is now no lameness to be observed; but when trotting that leg is carried slightly outwards, and extended a degree more than the other. The trapezium still continues slack, and I believe will for a considerable time, if not to the end of her days. Her owner shortly intends testing her again with hounds—when, should anything unfavourable occur (which I think likely) I will send you the result.

It was believed the accident was caused from another horse jumping on the limb; but I am of opinion it was done in coming to grief over a stiff fence, and going over several more afterwards.

HORSE PLAGUE IN EGYPT.—A correspondent writes from Egypt: "At Cairo the weather is milder and warmer than it usually is at this season. The horse-disease (which very much resembled blood-poisoning from serpent bite, although from some other specific poison acting in the same way) has ceased, after cutting off more than three-fourths of the equine animals."

MAD DOGS.—A mad dog was shot in the streets of Cardiff on January 6th, and two others in the outskirts—making the sixth mad dog shot within a few days. Thirty dogs suspected of having been bitten were destroyed in the neighbourhood. One mad dog was still at large near Cardiff. The county and borough police were ordered to seize all dogs; and notices were posted over the county requiring the owners of dogs to shut them up securely. A valuable horse bitten by a mad dog died on January 6th.

SMALL-POX AMONGST GOATS.—News from Gibraltar, of December 26th, announces that small-pox has appeared in an epizoötic form among the flocks of goats near Los Barrios; orders had been issued for preventing the milk or goats' flesh, or live stock from the infected districts coming into Gibraltar. A competent person had also been appointed to visit the district, and report thereon.

Editorial.

THE PART PLAYED BY MINUTE ORGANISMS IN DISEASE.

For now many years, attention has been closely directed to the presence of certain minute organisms which have been detected in animal bodies affected with particular maladies; and various opinions have been entertained as to the share these have in the evolution of such disorders, as well as to the nature of the organisms themselves.

Dr. Harz of Munich, in the *Centralblatt für die Medicinischen Wissenschaften*, states that, in opposition to what has been adduced by Brauell, Davaine, and other investigators, he has found that the rod-shaped bodies in Splenic Fever are motionless; that they never become constricted when treated with water, glycerine, or other agents; that they never divide into micrococci or similar cellular structures; and that they can be distinguished at the first glance from the bakteria of putrefaction. Bakteria, vibrios, micrococci, etc., are never found in the blood of Splenic Fever. The rod-shaped bodies of that disease can further be distinguished from the crystals that occur in the blood of animals affected by that malady, especially in horses, rats, and cats. The author finally concludes that, as the rod-shaped bodies of Splenic Fever are not organic structures, the signification given to them in the etiology of the disease by Davaine and others cannot be accepted.

The efficacy of pock-lymph has been attributed by several observers to the presence of small organisms of the nature of micrococcus. Hiller has recently studied this subject, and has published his investigations in the same journal. He reports that from 6840 separate inoculations, he finds that the degree of activity of the lymph and the proportion of micrococci present do not correspond. On the one hand, the development of the organisms was often at its greatest when the action of the lymph was falling off; and, on the other, lymph was often active though no bakteria were perceptible in it. Fresh diluted lymph having been put in vertical tubes in a freezing mixture, and slowly thawed after freezing, the upper half gave on inoculation 41·4 per cent. positive results, the lower half 63·8 per cent. It appears from this that the poison is associated with the solid constituents more than with the liquid. Boiled lymph was, without exception, inoperative. The addition of 1 to 4½ per cent. carbolic acid merely weakened the contagiousness of pock-lymph; while addition of glycerine left it unaltered. Strong dilutions weakened the action, while condensations exalted it; with evaporation the percentage of favourable cases was increased about one-half. In coagulated parts produced in the lymph, the active element was present in great quantity. Perfectly dried lymph is also active in high degree; hence we may infer that the communication of pox may occur by means of the crust and scurf of pustules which are rubbed off and float in the air. Inoculation with the blood of persons who were successfully inoculated proved inoperative; so also were the fresh contents of the vesicles, seven days after inoculation. It is

inferred that the cow-pox ferment is not contained in the blood, or not in the active state; and that very probably, also, the blood is not itself the seat of fermentation and reproduction of the poison.

It is to be observed that the part played by these minute organisms in the production of disease is far from being definitely ascertained, and that much has yet to be learned with regard to the pathogenesis of the destructive maladies in which they so often appear. In all the investigations which have for their object the elucidation of such obscure points in pathology, and which tax to the very utmost the patience, ingenuity, skill, and reasoning powers of man, errors are certain, from the very nature of things—errors in methods of investigation, errors in conclusions drawn from such investigation. Such appears to be the case with Dr. Klein's researches into the nature—histological and pathological—of Sheep-pox, in which certain organisms were supposed to be discovered and traced through various stages of development; thus verifying and greatly advancing the views promulgated by such excellent pathologists as Chauveau, Cohnheim, and many others. These discoveries by Dr. Klein caused much sensation in scientific circles, and were published in detail in the Proceedings of the Royal Society, of which the Doctor was made a Fellow through them. The researches having been undertaken by the Government, were also published in the Report of the Medical Officer of Health of the Privy Council, who pointed out their great value; the public, medical and scientific press likewise gave them long and commendatory notice; and in an early number of this journal we deemed it to be our duty to lay before the members of the veterinary profession an account of them—though without comment—as it appeared in the above Report, accompanied by the woodcuts with which it was illustrated in the Blue Book.

It is now apparently the fact that, through faulty manipulation or an error in investigation, Dr. Klein has been mistaken as to the nature of the appearances the diseased tissues presented; and the researches will therefore have to be commenced again. This is but the history of the advancement of human knowledge, and especially that of biology—in which there is so much that is mysterious, obscure, and baffling to the human mind. But such mistakes only tend to make the advancement of knowledge, if slow, at least more certain, by ensuring greater care on the part of investigators, and pointing out to them the sources of error.

We have been led to make these remarks from the fact that our contemporary, the *Veterinarian*, has recently alluded to Klein's mistake in a leading article in which we are somewhat sneered at for publishing the account of the researches. No allusion is of course made to the Royal Society's Proceedings, the Blue Book, the *Times* leading articles, or other media in which it appeared. Our contemporary was probably not aware of the fact that Klein's researches had been published in other than our own columns. It should certainly be the last to allude derisively to mistakes made in scientific investigations, if it would only reflect for a moment on its own history and its own mistakes—past and present.

We shall continue to consider it to be our highest privilege to lay before the profession whatever scientific discoveries are made which will in any way tend to advance our knowledge of pathology, pathological processes, or vital phenomena in general, feeling assured that we are of those who form the great majority of students in veterinary medicine, and who decline to cry out that nothing more is to be learned, and that science is barren. With the infinitely small minority who exult over such mistakes as those of Dr. Klein, because they are likely to drive us back to the age of "farriery," we can have no sympathy. Their day is gone by.

AN EPIZOÖTY IN POULTRY IN BOLOGNA.

In the *Gazetta Medico-Veterinaria* for May, June, July, and August last, P. Piana, Assistant in Pathological Anatomy in the Veterinary School of the Bologna University, gives a detailed and most important account of an outbreak of disease among poultry, which occurred in 1875 in that Italian province.

During September of that year, Piana, being in the country, heard complaints on every side of a disease which was making considerable ravages in the poultry yards of the farmers, and he set himself down to investigate it. One of the first points to be ascertained was whether the malady was contagious; and this fact was ascertained beyond a doubt,—thus justifying in his mind the designation of "Fowl Cholera" given to the malady in France, and by which it was described by Reynal. Piana proved its transmissibility by direct experiment, having taken a lot of healthy fowls and shut them up, so that they could have no communication with diseased ones. So long as they were thus isolated they remained healthy, but so soon as they mixed with the infected they became ill and perished.

Another point ascertained was that people or animals which ate the the fowls that had died, or were killed because they were sick, did not suffer thereby; even dogs and cats which ate their raw flesh were not indisposed.

The principal symptoms were as follows: When the fowls began to be unwell, the head and wings drooped, the plumage stood erect, the crest became livid, and the bird drank as if with difficulty—often plunging its beak in the water; it staggered when it attempted to walk, as if paraplegic; when the disease had made more progress the fowl sought the sun's warmth, and lay immovable. Digestion was suspended, as after death the gizzard was always found to contain untriturated food; the buccal cavity was full of mucosities, and the tail and surrounding parts were soiled by the fœtid liquid dejections. Death occurred in about thirty hours after the commencement of the attack, and was frequently preceded by convulsions and the ejection of fluid. Instances, however, were noted in which death took place quite suddenly and without any warning; and it was not rare to find in the roosts in the morning, a number of fowls dead and already cold, which appeared to be quite well the previous evening. Some of those attacked recovered, but generally after a week or two's convalescence they all at once succumbed.

The dead birds showed greenish patches in the abdominal region, as if putrefaction had begun during life; and on opening the bodies they exhaled a peculiar fœtid odour. The liver was covered with small white patches, the size of which varied from that of a grain of millet to a pea. With regard to the other modifications in this organ—such as volume, coloration and

density—the author carefully points out that there is nothing specific about these, as even in health the condition of the liver is extremely variable, this diversity depending on the kind of food fowls receive, the life they lead, ovulation, etc. The crop, ventriculus and gizzard, as well as the pancreas, kidneys and spleen, did not offer anything unusual. The intestine was injected externally, especially in its duodenal portion ; internally it contained thick mucus, and a kind of diphtheritic exudate of a yellowish colour, which adhered to the villi. The mesentery exhibited very dark or greenish arborisations. The heart and large vessels were filled with black, pitchy-looking blood. Examined with the microscope, a certain number of the red globules were deformed and had lost their colouring matter ; the proportion between the red and white globules did not appear to be altered. Among these elements of the blood were noticed cells derived from the lining membrane of the vessels, which had undergone a kind of colloid degeneration, and some micrococci. The lungs did not show any special alteration ; sometimes they were gorged with blood, at other times they were normal.

The brain and spinal cord presented traces of hyperæmia. In the subcutaneous tissues, more particularly towards the neck and thighs, were discovered little, pale, oval concretions, sometimes scarcely visible to the naked eye, at other times as large as a barley grain. A microscopical examination of these demonstrated that they contained a small acarus, which was at first believed to have some relation to the *Sarcoptus cysticola* (Viziola), but a more careful scrutiny dispelled this notion. These were not at all considered as having anything to do with the malady, but were only looked upon as concomitants.

Turkeys, pheasants, and peacocks, which were also seized with the disorder, presented the same appearances.

Pursuing his histological researches still further, Piana discovered another kind of parasite, which he describes as follows : " If a shred of the changed and green-coloured mesentery is placed in the microscope, it is found that the coloration is due to spherical, oval, or pyriform corpuscles, which contain in their interior many granules of various sizes, having a colour ranging from pale to dark green, and olive to black. In addition to these granulations, some corpuscles contain one or more shining nuclei surrounded by a dark substance. There are also found in the mesentery a variable proportion of free granules similar to those contained in the corpuscles. All these elements —corpuscles and granules—are found in the texture of the mesentery, and cannot be separated from it by mere scraping ; it is impossible to mistake them for the cells of the connective tissue. In order to ascertain more with regard to their nature, at the instigation of Professor Ercolani I submitted them to various manipulations. Acetic acid (pure), ammonia, and a solution of caustic potass (25 per cent.), had no apparent action on the corpuscles, but only rendered them more visible by dissolving the germinal matter in which they were imprisoned. Nitric, sulphuric and hydrochloric acids almost instantly deprived them of their colouring matter, without altering their shape unless they were left in them for some time. Alcohol, ether and oil of turpentine also decolorised them. Glycerine did not immediately affect them, but by prolonged immersion in it they became more pale. If a portion of this ' corpusculous ' mesentery is placed in water, the corpuscles remain without alteration for a long time, while the other elements of the tissues are destroyed by putrefaction."

Piana was of opinion that these corpuscles were of a vegetable nature—*psorosperms ;* and he thought they were the *psorospermium virides* of Pauliki. The question is, however, whether these organisms, which are so destructive to certain insects—and particularly to the silkworm, in which they develop and give rise to the disease called " Pebrine "—were the cause of this fatal

malady in the poultry, and did their presence cause the alteration in the blood observed in them? And how did they reach the mesentery, under what form, and how did they multiply? These questions occurred to Piana, and he endeavours to answer them. Reasoning by what occurs in other animals, he is disposed to think that the corpuscles are introduced into the bodies of the fowls as protococci along with the food, find their way into the intestinal canal, are there absorbed, and finally deposited in the mesentery, where their multiplication by division may go on very rapidly.

With regard to the question as to whether these psorosperms were really the active agent in producing the malady, Piana informs us that in a very small number of the fowls he dissected, and which had died before presenting all the characteristic symptoms of the disorder, he could not find any of these organisms; but, on the other hand, he relates the following experiments:—1. Beneath the skin of three healthy fowls from an uninfected place, he introduced a small clot of blood from a fowl which had died only a few moments before; the three fowls died within from eighteen to twenty hours. 2. Beneath the skin of another healthy fowl he inserted a minute fragment of mesentery containing psorosperms; this creature died in thirty-six hours. At the autopsy of these four birds, all the lesions previously described were found, but no corpuscles in the mesentery,—there were only some free micrococci at the point of inoculation. 3. Five guinea-pigs and three rabbits were inoculated with the blood; three of the guinea-pigs and one rabbit died, after twelve and twenty-four hours. 4. A number of fowls were well isolated, and attempts made to produce mediate infection in them by the intestinal absorption of water impregnated with matters from the digestive tube, and feeding them with portions of the mesentery, liver, blood, and other *débris*, of birds which had died of the disease. The results were constantly negative.

From these experiments, Piana concludes that if the psorosperms of the mesentery play any part in the production of this gallinaceous epizoöty, it is evident that their ingestion alone in the intestinal canal is insufficient, and that they must be assisted in their operations by certain of those anti-hygienic conditions amid which poultry are generally kept.

Piana terminates his long and able report with certain conclusions of a practical nature, among which we find a recommendation to keep roosts and poultry-yards clean and well ventilated, to isolate and even kill the first birds affected, to bury them and everything belonging to them most carefully, to disinfect the places in which they were kept, and to administer hyposulphite of soda and carbolic acid mixed in the water given the fowls to drink.

ROYAL AGRICULTURAL SOCIETY'S PRIZES.

THE examiners appointed to carry out the instructions with regard to these prizes—Messrs. Mayer, Hunt, and Gresswell—have awarded them as follows, after a highly creditable competition:—

A. B. Daniel, Royal Veterinary College	Gold medal and £20.
M. C. Yaxley, Norwich	Silver medal and £10.
F. Smith, Army Veterinary Department	Bronze medal and £5.

We heartily congratulate these gentlemen, the first recipients of these prizes, and we trust that next year may witness a larger number entering their names for the competition.

VETERINARY DEPARTMENT OF THE PRIVY COUNCIL.

It is announced that Dr. Alexander Williams, who has been Secretary of the Veterinary Department of the Privy Council since its establishment, has resigned the appointment in consequence of ill-health. We are not aware what qualifications Dr. Williams was supposed to possess for such an important office, as his speciality appears to have been chemistry, he having been an assistant in chemistry for a short period at the Royal Agricultural College, Cirencester. He was, however, for some time Private Secretary to the late Sir Arthur Helps, Clerk to the Privy Council. The appointment was worth £1000 a-year; and it is not intended, we believe, to continue it, a re-organization of the Department being in contemplation. Such a change has been for a long time required, as the Department has rendered far less service than it might and should have done.

RABIES CANINA AND GLANDERS IN MANKIND.

In 1874 Rabies Canina was fatal to 61 persons in England—namely, to 49 males and 12 females; four were children under five years of age, eight were boys from five to ten years of age; three were boys, and three were girls, of ten to twenty years; six were young men and one a young woman, of twenty to twenty-five; 29 were men, seven women, of twenty-five and upwards. The cases were distributed over the country as follows: Derbyshire, 2; Cheshire, 2; Lancashire, 1; West Riding of Yorkshire, 12; East Riding, 3; Durham, 1; Nottinghamshire, 1; Essex, 1; Warwickshire, 1; Staffordshire, 1; Middlesex, 7; Surrey, 5; Kent, 1; Sussex, 2. In the same year Glanders was fatal to four men.

VETERINARY HONOURS.

It gives us unfeigned pleasure to annnounce that our highly distinguished and talented colleague, M. Henri Bouley, Director of the National Veterinary Schools of France, has been elected President of the Académie de Médecine of Paris for 1877; M. Baillarger, the well-known physician, having been chosen Vice-president. This very great distinction conferred on the eminent French veterinary surgeon, while it is a just tribute to the excellent services he has for so many years rendered to comparative pathology and sanitary science, is certainly a great and unprecedented honour for the veterinary profession, not only in France but in other countries. He has our warmest felicitations on this most auspicious event in his brilliant career.

We also learn that Mr. Billing, of the United States of America, and who is studying veterinary medicine at Berlin, has been elected an honorary and corresponding member of the Veterinary Scientific Society of Brandenberg. Prussia.

CONTAGIOUS DISEASES (ANIMALS) ACT, 1869.

(*From a Supplement to the London Gazette, January* 16, 1877.)

The Lords of the Council have been advised that Cattle Plague has been detected in a cargo of cattle brought from Hamburg, and landed at the Foreign Cattle Market, Deptford, in the port of London.

The Lords of the Council have issued an order declaring that the regulations of the Fourth Schedule to the Act of 1869 shall apply to sheep and goats brought to Great Britain from a port or place in the German Empire, and landed in Great Britain, and such sheep and goats shall not be landed except at a landing-place within the respective defined parts of the following ports :—Glasgow, Goole, Grimsby, Hartlepool, Hull, Littlehampton, London, Middlesborough, Newcastle-upon-Tyne, Plymouth, Shields (North), Southampton, Sunderland. All such sheep and goats shall be slaughtered within ten days after the landing thereof, exclusive of the day of landing.

But this Article shall operate subject to the special provisions of the Order of Council defining parts of the port of Southampton, dated the 5th day of June, 1875.

The order was to take effect from January 16th.

We learn that this malady has appeared in several parts of the Continent, probably owing to the mobilisation of the Russian Army towards the Pruth.

The *Official Gazette* of Berlin announces an outbreak of Cattle Plague on the property belonging to the Concordia Sugar Refinery, near Brieg, in the Province of Silesia.

THE VETERINARY DEPARTMENT OF THE SWISS ARMY.

ACCORDING to the new organisation of the Swiss federal army, the veterinary department is completely separated from the other branches of the war administration. It is represented at the War Office by the Veterinary Surgeon-in-chief, who has the same rank as the chiefs of the four arms of the service, the Surgeon-in-chief and the Intendant-in-chief. For each division of the army there is a Divisional Veterinary Surgeon, who has the rank of Major ; a veterinary officer is attached to him. In each squadron of Dragoons, consisting of 132 horses ; in each battery of Field Artillery (*Artillerie de Campagne*), which has 130 horses ; in each Battery of Mountain Artillery, in each Park column (*Colonne de Parc*), and in each division of a battalion of the Train, there is a Corps Veterinary Surgeon.

For the future veterinary surgeons are to learn their military duties as recruits in the Train for 55 days, and afterwards go to the Veterinary Officers' School for 28 days. After receiving the brevet rank of First Lieutenant, they are incorporated, and the following year attend instruction as recruits : in the Cavalry for 60 days, in the Field Artillery for 55 days, and in the Train for 45 days.

The pay is :—

First Lieutenant (corps veterinary surgeon), per day . . .	8 francs.
Captain, per day	10 ,,
Major (divisional veterinary surgeon), per day	12 ,,
Lieutenant-Colonel (veterinary surgeon-in-chief), per day . .	15 ,,

These officers receive, in addition, as "subsistence allowance" (*indemnité de vivres*) one franc a day. They have to purchase and keep a horse at their own expense, but they are allowed an indemnity of four francs *per diem*, the ration of the horse *in naturâ*, and two and a half francs for equipment. The uniform and equipment for the instruction of the recruit are provided by Government ; but each veterinary officer receives an indemnity of 450 francs for his regimental outfit.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD JANUARY 11TH, 1877.

Present—Col. Sir F. Fitzwygram, Bart., President, in the chair; Professors Brown, Pritchard, Simonds; Messrs. Balls, Batt, Cartledge, Cartwright, Collins, Cox, Dray, Duguid, Gowing, Greaves, Moon, Moore, Withers, Woodger, and the Secretary.

The notice was read convening the meeting.

The minutes of the last meeting were read and confirmed.

The PRESIDENT said it was his sad duty to announce the untimely death of Mr. William Field, jun., from an accident in the hunting field. In him the members of Council had lost a most kind and genial friend, and the profession one of its brightest ornaments. Although comparatively speaking young in years, he had long been a member of the Council, and had been twice its President. He proposed that a letter of condolence be sent to Mr. Field, sen.

Mr. DRAY seconded the motion, which was unanimously carried.

Correspondence.

The PRESIDENT read a letter from Mr. Loch, in which he stated that he had been informed by the Privy Council Office authorities that the application of the Highland and Agricultural Society for a Charter had been rejected at the last meeting of the Council, and that the results had been communicated to the parties immediately interested.

Letters were received from Professors Walley and Williams and Mr. Hunt, regretting their inability to attend the meeting.

A letter from Mr. Parker of Birmingham, forwarding a specimen of diseased auricles in a horse's heart for the museum.

The SECRETARY said that Dr. Burdon Sanderson had seen the specimen, and stated that it was an ossification of the muscular structure of the right and left auricles of the heart, and regretted that the whole heart had not been presented to the museum.

On the motion of Mr. DRAY, seconded by Mr. CARTWRIGHT, a vote of thanks was awarded to Mr. Parker for his presentation.

A letter from Mr. Andrew Kershaw, M.R.C.V.S., of Kirton-in-Lindsey, Lincolnshire, addressed to the President, complaining that a Mr. Charles B. Chapman, residing in that town, not being a qualified practitioner, usurped the title of V.S. and M.R.C.V.S., not having been educated at any of the Veterinary Colleges, and suggesting that the name be advertised in one of the local papers. At the same time he appealed to the Council for the obtainment of a protective Act.

Letter from Mr. R. Laidlaw, M.R.C.V.S., Albany, New York, forwarding post-office order for eight shillings in payment of two copies of Register to be forwarded when published.

The SECRETARY announced the presentation by Mr. Fleming, of Part V. of his "Text-Book of Veterinary Obstetrics."

A vote of thanks was passed to Mr. Fleming on the motion of Mr. DRAY, seconded by Mr. DUGUID.

Election of Examiner for Scotland.

The SECRETARY stated that, in reference to the vacancy caused by the resignation of Mr. R. Paterson, he had written to the principals of the three schools in Scotland, asking them to nominate some gentleman of eminence who would be able to fill the vacancy. A letter had been received from Professor Walley, suggesting the names of Mr. Dewar, sen., Mid-Mar; Mr. John Lawson, Manchester; and Mr. Macgillivray, Banff; and, if the vacancy was in cattle pathology, especially recommending Mr. Dewar, from his long experience, as best fitted to fill the post. A letter had also been received from Professor McCall, in which he announced the death of Mr. Maclean (another of the Examiners), which event would necessitate the election of two Examiners instead of one. He recommended, as fitted to occupy the vacant post of Examiner, Mr. Paley, Dublin; Mr. T. D. Lambert, Dublin; Mr. Gray, Edinburgh; and Mr. Cunningham. Prof. McCall said that, personally, he wished one of the gentlemen from Dublin might be elected, as such a choice would tend to bind Irish friends more to the College. There was not, at present, any Irish representative at the Council—which was a misfortune that called for immediate redress.

The PRESIDENT agreed with what had been put forward by Prof. McCall in regard to the election of an Irish representative. There were now two vacancies in the Scotch section of the Board. The appointments now to be made would only continue until next July. He would propose Mr. Lambert, of Dublin, as one, and in regard to the other he would propose Mr. Harpley, with a view of bringing about an amalgamation of the London and Edinburgh section of the Board. To the first vacancy in the London section he intended to propose one of the Scotch Board.

On the ballot being taken, Mr. T. D. Lambert and Mr. M. J. Harpley were declared to be duly elected.

The SECRETARY stated that a letter had been received from Mr. Mayer, of Cirencester, asking for certain changes at the examination tables.

Professor SIMONDS moved that the letter received from Mr. Mayer be referred to the Court of Examiners, with a request that they report thereon in time for the next meeting of the Council.

Mr. GOWING seconded the motion.

The PRESIDENT explained that what the Court of Examiners wished was that another table should be constituted, as at present the cattle practice and horse practice were joined together. If the pupil was good in horse practice and very deficient in cattle practice, the four Examiners, though they had examined separately, would have to meet together and give a joint opinion; so that most of the Examiners felt it was exceedingly desirable, both in horse and cattle practice, that they should report separately.

Professor SIMONDS remarked that this would necessitate some alteration in the bye-law.

The motion was put and carried.

Examinations.

The SECRETARY reported that at the several meetings held for the Pass Examination on the 3rd, 4th, and 5th January, twelve students passed and thirteen were rejected; and at several meetings held on the 8th, 9th, and 10th, fifteen passed for their "First Examination," and ten were rejected.

The SECRETARY having called attention to some irregularity on the part of some of the students in the payment of their examination fees, and some conversation thereupon having ensued,—

It was resolved, on the motion of the President, that in future the Secretary be instructed to receive the fees in whatever way the students chose to send

them, provided they be sent at the regular time—viz., seven days prior to the examination taking place.

On the application of the Secretary, the sanction of the Council was given for the obtaining of a new Record and other official books.

Report of the Prize Committee.

The following Report was read by the Secretary :

"A meeting of the Prize Committee appointed by the Council of the Royal College of Veterinary Surgeons was held on December 27th, 1876, to draw up the rules and regulations for the guidance of the examiners, in the award of the prizes offered by the Royal Agricultural Society to graduates of the Royal College of Veterinary Surgeons who have passed their examinations 'with very great credit,' or 'with great credit.'

"Six candidates entered their names for the competition prizes.

"The Committee decided that three examiners appointed by the Council should form one undivided court ; and that each candidate be examined upon the same subjects, and for the same length of time,—the selection of subjects and time to be left to the discretion of the examiners.

"As the state of health or deviation therefrom which may be presented by the several animals under inspection cannot be known until the period of examination arrives, the Committee recommended—

"1. That each candidate be required to diagnose any disease under which the animal or animals may chance to be suffering.

"2. That he also be called upon further to examine the same animal, or others, with a view to testing his knowledge of special disease (not less than *three* special diseases being presumed to exist, and in turn considered in this way), note being particularly taken by the examiners of the aptitude of the candidate in the detail of his practical manipulation of the several animals whilst instituting his examination.

"3. Whatever the line and extent of the examination which may arise in the instance of the candidate first presenting himself, the same to be scrupulously followed in the examination of each other candidate, and no additional subject-matter introduced.

"The written examination shall embrace a description of the pathology, symptoms, and treatment, of not less than three diseases, which shall be determined by the examiners.

"The standard of qualification in the practical examination, and in the *vivâ-voce* examination, shall be the number of marks obtained in each section ; and a candidate shall be ineligible for the written examination if failing to obtain half of the total number of marks fixed by the examiners.

"It was decided that the practical and *vivâ-voce* examination take place on Saturday, January 6th, and that the written examination be held on Monday, January 8th, at the Royal College of Veterinary Surgeons. That three hours be allowed for the written examination—viz., from 10 to 1 o'clock p.m.

"The SECRETARY stated that four candidates presented themselves for examination. The practical examination took place on Saturday, January 6th, at 10 o'clock a.m., at the lairs of the Cattle Market, Islington ; the *vivâ-voce* examination at the Royal College of Veterinary Surgeons, on the afternoon of the same day ; and the written examination was held in the same place on Monday, January 8th, under the scrutiny of the examiners. The successful candidates were—Mr. Alex. B. Daniel, first prize ; Mr. Yaxley, second prize ; and Mr. F. Smith third prize."

Fellowship Committee.

Professors Walley, Williams, McCall ; Messrs. T. D. Broad, B. Cartledge, J. Collins, P.V.S., H. Ferguson, T. W. Gowing, T. Greaves, M. J. Harpley,

T. D. Lambert, J. Malcolm, T. W. Mayer, M. E. Naylor, D. Paley, W. Robertson, A. Robinson. Professors Simonds and Brown were nominated, but did not wish to serve on the Committee.

The SECRETARY read the following Report :—

"The Committee, after much consideration and after several meetings, beg to recommend to the Council the under-mentioned gentlemen for election as Primary Fellows.

"The Committee feel that an arbitrary selection of names, with whatever care it might be made, would probably create dissatisfaction.

"They have therefore adopted certain recognsed quialifications as the bases of their recommendations ; namely :—

"1. Office of President of the Royal College of Veterinary Surgeons.

"2. Professorships—to be limited to veterinary surgeons who have held office as professors for not less than five years, and have not since left the profession.

"4. Office of President of Veterinary Medical Societies.

"5. Veterinary Authors.

"6. Distinction in Original Research.

"7. Members of Council who have been three times honoured by the profession by election as Members of Council ; or who have been twice elected as Vice-Presidents of the Royal College of Veterinary Surgeons.

"8. Her Majesty's Veterinary Surgeon in England, Ireland, and Scotland.

"9. The veterinary surgeons to the Royal Agricultural Societies of England, Scotland, and Ireland.

"10. The Father of the Profession.

"The Committee think that the Army Veterinary Surgeons should be placed on a different footing, as the nature of the military service and their frequent absence from home does not in general admit of their obtaining some of the above qualifications. The Committee therefore suggest that the Principal Veterinary Surgeon should be requested to select eight names for the approval of the Council.

"The Committee feel that the veterinary surgeons practising in Ireland are also placed under somewhat similar disadvantages, as the distance has generally disinclined them to take office in Council ; and, again, there are no Veterinary Medical Societies in Ireland. The Committee therefore suggest that the Irish section of their Committee should be requested to select a number of names from veterinary surgeons practising in Ireland for the approval of Council, not exceeding the proportion (5 per cent.) allowed by the Charter."

List of Members proposed for Fellows.

Anderton, John W., President Yorkshire V.M.S. 1875 ; Balfour, Andrew, President Scottish Metropolitan V.M.S. 1875 ; Bennett, John, oldest living member, Vice-President R.C.V.S. 1853 ; Blakeway, Francis, President Midland Counties V.M.S. 1871 to 1873 ; Borthwick, John, President Scottish Metropolitan V.M.S. 1872 ; Broad, Thomas D., President West of England V.M.S., Member of Council R.C.V.S. 1861 to 1874 ; Broad, James C., Member of Council R.C.V.S. 1867 to 1876 ; Broughton, William, President Yorkshire V.M.S. 1874 ; Brown, G. T., Professor, President R.C.V.S. 1873, and Member of Council 1864, Examiner 1868 to 1872 ; Charles, John, President Midland Counties V.M.S. 1868 and 1869 ; Carter, Joseph S., President Yorkshire V.M.S. 1873 ; Cartledge, B., President R.C.V.S. 1871, Member of Council 1859 to 1874, Examiner 1859 to 1876 ; Cartwright, H. J., Vice-President R.C.V.S. 1868, 1874, 1876 ; Cartwright, W. A., Original Research ; Cockburn, William, Examiner R.C.V.S. 1856 to 1870 ; Cox, John Roalfe, President Central V.M.S. 1874 ; Cuthbert, John, President Yorkshire V.M.S.

1872 ; Dobson, Joseph R., Author ; Dray, Edward C., President R.C.V.S. 1874, Member of Council 1872, President Yorkshire V.M.S. 1864 ; Ferguson, Hugh, Professor, H.M.V.S. in Ireland, Veterinary Department Privy Council ; Field, William, President R.C.V.S. 1854 and 1855, Member of Council 1844 to 1864, Examiner 1844 to 1863, Treasurer 1846 to 1850 ; Freeman, James, President Yorkshire V.M.S. ; Gamgee, Joseph, Author ; Gowing, T. W., Member of Council 1854 to 1857 and 1868 to 1874, President Central V.M.S. 1875 ; Greaves, Thomas, President R.C.V.S. 1869, Member of Council 1864 to 1876, President Lancashire V.M.S. 1864, Yorkshire V.M.S. 1867, Liverpool V.M.S. 1869, and Midland Counties V.M.S. 1874 ; Gregory, Tom D., President West of England V.M.S. 1868 ; Greswell, Dan, Original Research ; Heyes, Gilbert, President Liverpool V.M.S. 1868 ; Howell, James, President Lancashire V.M.S. 1867 ; Hunt, Robert L., President R.C.V.S. 1864, Member of Council 1868 to 1872, Examiner 1872 ; Hunting, Charles, Member of Council R.C.V.S. 1868 to 1870, President North of England V.M.S. 1864, Author ; King, Henry, President Midland Counties V.M.S. 1867 ; Law, James, Professor Cornell University, Author ; Lupton, James J., Author ; Lyon, William, Examiner 1844 to 1850 ; McCall, James, Professor Veterinary College, Glasgow ; Mavor, Alexander, Original Research ; Mavor, Fred. J., President Central V.M.S. 1873, Author ; Mayer, Thomas W., Member of Council R.C.V.S. 1844, Examiner 1851 to 1856, 1873 to 1876, Professor Cirencester Agricultural College ; McEachran, D., Professor Veterinary College, Montreal ; Moon, James, Member of Council R.C.V.S. 1860 to 1876 ; Moore, James, Author ; Naylor, M. E., President Yorkshire V.M.S. 1869 ; Paterson, Robert B., Examiner R.C.V.S. 1870 to 1876 ; Pritchard, Richard, Member of Council R.C.V.S. 1848 to 1876, Examiner 1859 to 1876 ; Pritchard, William, Professor R.V.C., Member of Council 1868 to 1876 ; Raddall, Warne, President West of England V.M.S. ; Robb, George, Examiner R.C.V.S. 1851 to 1856 ; Robertson, William, Examiner R.C.V.S. 1860 to 1876, President Scottish Metropolitan V.M.S. 1871 ; Robinson, Alexander, Examiner R.C.V.S. 1870 to 1876 ; Simonds, J. B., Professor R.V.C., President R.C.V.S. 1862, Member of Council 1844 to 1876, Author ; Smith, William, President Eastern Counties V.M.S. 1868 ; Taylor, Charles, President Midland Counties V.M.S.; Taylor, Peter, President Lancashire V.M.S. 1865 ; Taylor, Thomas, President Lancashire V.M.S. 1868 ; Varnell, George, late Professor R.V.C., President R.C.V.S. 1865, Member of Council 1852 to 1868 ; Williams, George, V.S. to Her Majesty ; Withers, S. H., Member of Council R.C.V.S. 1849 to 1873.

Army.—Bath, H., Royal Artillery ; Collins, F. F., Staff V.S. ; Gardiner, B. C. R., Staff V.S. ; Gloag, I. W., Half-pay ; Gudgin, T. P., Staff V.S. ; Harpley, M. J., Royal Horse Guards ; Lambert, James, 17th Lancers ; Owles, Alfred J., Staff V.S. ; Poyser, Richard, 6th Dragoon Guards ; Steel, Charles, 12th Lancers.

The following gentlemen are eligible if the Council take the view put forward by Mr. Greaves in his letter of January 5th :—

Collins, James, Principal Veterinary Surgeon ; Fleming, George, Author, Examiner and Councilman R.C.V.S., President Central V.M.S. ; Lambert, T. D., V.S. Royal Agricultural Society of Ireland ; Morgan, George, President Liverpool V.M.S. 1875 ; Storrar, James, President Liverpool V.M.S. 1872 ; Whittle, W., President Lancashire V.M.S. 1871 ; Williams, W., Professor and Author ; Woods, William, President Liverpool V.M.S. 1876.

The PRESIDENT moved "That the qualifications stated in the report be accepted as necessary for the election of Fellows."

Mr. NAYLOR seconded the motion, which was carried.

The PRESIDENT said the following letter had been received from Mr. Greaves:—

"Knott Mill, Manchester, *January 5th*, 1877.

"DEAR SIR,—I intended, if I had been present, to raise the question of opening the door a little wider for the admission of Fellows; as it is, we are excluding many of our best men. I know in accordance with the construction members of Council at present put upon the Charter, we must do so But in my opinion the wording of the Charter is not definite; it will bear another interpretation. It nowhere emphatically says he must have been a member of such College for fifteen years; the clause, 'That such of the members of the said College, or such persons being members of the said College as shall have practised as veterinary surgeons for fifteen years at least,' does not in my humble opinion imply that such must have been a member of the said College for fifteen years, but that he must have practised as a veterinary surgeon for fifteen years and be a member of the said College at the date hereof. You may say, 'Why, this will open the door to any and every farrier or quack in the country who may have practised as a veterinary surgeon for fifteen years and gained his diploma only yesterday!' I say no; we have a discretionary power given us in our Charter, 'to elect in such manner as we deem best.' I would therefore respectfully suggest that those gentlemen who have undergone a regular course of instruction at the Edinburgh Veterinary College, gained the Highland Society's Certificate fifteen years ago, and been practising as veterinary surgeons for fifteen years at least, and are now holders of our diploma, shall be deemed eligible to be elected Fellows.

(Signed) "THOS. GREAVES.

"To Mr. Coates, Secretary."

The PRESIDENT said, of course when the special examination was given to them they were accepted as members of the profession, and the principle had been recognised by the Council in many cases. He had obtained the opinion of Mr. Loch on the point, and that gentleman had stated that he saw no reason why those who had passed a *pro-formâ* examination at the College, after having practised for fifteen years altogether, should not, under the conditions of the Supplementary Charter, be elected Fellows.

The PRESIDENT then proposed, "That the names of Fellows as read over be approved, and that the Committee of Selection be authorised to write to each of the gentlemen to know whether they accept; that a fair time be given to them for acceptance, and that, in the course of a month or five weeks, a special meeting of Council be called to elect those who so accept."

Mr. GREAVES seconded the motion, which was carried—Professor Simonds dissenting.

Professor SIMONDS said, in order to save the Secretary the trouble of writing to him, he wished to state that he had no wish or disposition to accept the honour which had been offered to him and approved by the vote that had been taken.

The PRESIDENT further moved, "That the Committee of Selection be authorised to add, for the similar approval of Council at next meeting, the names of any other gentlemen qualified as above who may have been accidentally left out of the list, and against whom there may be no objection, as far as the Committee think; and also that they be empowered to write to the gentlemen who may be selected to represent the Irish section of the profession."

Mr. CARTLEDGE seconded the motion, which was carried.

College Fund.

The TREASURER reported that he had bought £208 1*s.* 3*d.* Consols in the name of the three Trustees, and that the balance at the bankers' was

£31 3*s.* 10*d.*, which included two additional subscriptions received by the Secretary of two guineas each.

Finance Committee.

The report showed that the present liabilities amounted to £164 9*s.*, which the Committee recommended should be discharged. From the Treasurer's balance-sheet it appeared that there was a deficiency of £97 15*s.* 5*d.*

To meet this deficiency it was arranged to borrow £100 from the bankers.

On the motion of the PRESIDENT, seconded by Mr. DRAY, the report was received and adopted.

Cheques were ordered to be drawn for the current expenses.

Mr. Collins was elected Trustee in place of Mr. Field, jun., deceased.

Examination of Students.

Professor SIMONDS called attention to a subject of which he had given notice—namely, a reconsideration of the division that had been made of the subjects upon which students were to be examined at the several examinations. If he remembered rightly, a student at his first examination was to be examined on chemistry, materia medica, botany, pharmacy, and toxicology; and, in addition to pharmacy, the student was to be called upon to write a prescription. So far as writing a prescription was concerned, he thought that was a matter of either little or great importance, according to the view which each individual might take. If the student was to be called upon to write a prescription after the manner which was usually adopted, he would necessarily require to have a knowledge at any rate of the Latin grammar; but unfortunately such a state of things had not yet been arrived at. There was a large number of students who, on entering the schools, had no classical education at all, and therefore it was apparent at once that those students could not comply with that part of the regulation. It had been suggested by the Pharmaceutical Society and by some other learned bodies that prescriptions should be written plainly and in English and in full, because great injury had often resulted from persons attempting to write that which they did not at all understand. He had no objection whatever to students at the right and proper time writing a prescription—and if it could not be written correctly in Latin, let it be written in English; but he thought that that practical examination should be carried out conjointly with other practical examinations. It was absolutely necessary for a student to pass his examination in practical pharmacy at the time he passed his examination on other practical subjects; and the reason he held that opinion was because it was not wise for a student to become at all acquainted with practical pharmacy unless he knew something, at any rate, of materia medica, and even of chemistry. During his first examination he actually received instructions upon these two very important subjects; and he had to pass his first examination upon them. It was very clear, then, that unless he had obtained a knowledge of agents and their properties he could not at all properly pass an examination in practical pharmacy. He thought, for those reasons and some others which might be added, that it would be far better for practical pharmacy and toxicology also to be removed from the first examination and placed with the las examination.

Professor BROWN supported Professor Simonds' proposition. He would confine himself to pharmacy, as toxicology was a subject with which he had nothing at all to do. Professor Simonds had suggested that pharmacy was a subject which required a preliminary knowledge both of chemistry and materia medica; and speaking from the experience he (Prof. Brown) had had during the previous few weeks, he could say that he had utterly failed in his attempt to teach the freshmen anything at all relating to the construction of

the most simple prescription. Some of them did not know the difference between nitrate of potash and aloes, and some of them did not even know the meaning of the word "drug." Under these circumstances it was simply ridiculous for him to continue lecturing on the preliminaries of the construction of prescriptions. He asked if it were reasonable to suppose that a man knowing nothing previously, could be plunged at once into writing prescriptions. The subject was altogether a complicated one, and he quite agreed with Professor Simonds that it should be relegated to the last examination.

Mr. GOWING was afraid that if the prescriptions were written in English the farmers might continue to use them to the pecuniary disadvantage of the local veterinary surgeon.

The PRESIDENT pointed out that the new scheme, which had been objected to by the previous speakers, had been drawn up not very long ago, after considerable consultation with the heads and professors of all the schools; and it was too much to say that it was a failure, because it had not yet been at all tried. It was erroneous in Professor Brown to say that the students knew so little at the end of the time; because the students coming up under the new scheme, which had not yet been tried, would have had a whole year's instruction instead of the more limited time they at present had.

Professor SIMONDS explained that materia medica was a subject confined to the summer, and that there would be only two months during which an opportunity would be given of acquiring a knowledge of the articles of medicine.

The PRESIDENT said that that was an arrangement of the school; but as far as the Royal College of Veterinary Surgeons was concerned, a student would not be eligible for his first examination until he had studied three terms; and at the end of these three terms it was to be hoped that he would know something of pharmacy and materia medica; but considering the views that had been urged by Professor Simonds and Professor Brown, he should propose that the words "the writing of prescriptions" should be struck out.

Mr. GREAVES, while agreeing with the remarks that had been made, thought it would be well to ascertain the views of the principals of the other colleges upon the subject.

Mr. COLLINS thought that materia medica and pharmacy were in their proper position in being included in the first examination, as many students had been, previous to entering the schools, employed by veterinary surgeons, and were acquainted with drugs.

After some further conversation on the subject,—

The PRESIDENT suggested that, the question being a practical one, and one which the Council as a body could not very well discuss, a small committee should be appointed to consult with the schools and examiners, and to report to the next Council meeting.

This proposition was acceded to, and Mr. Collins, Mr. Dray, and Mr. Duguid were appointed the members of the Committee.

Examination Fees.

Professor SIMONDS called attention to the regulation which had recently been agreed upon by the Council with regard to the payment of fees for examination. There would be three examinations, at any one of which a student might be rejected twice and still be eligible to pass in the second and third examination; so that it was very clear that a student could have two rejections on his first, two on his second, and two on his third. It was quite possible a case of that kind might occur; and a man under such circumstances would be consequently called upon to pay three guineas for each of the examinations; so that six at three guineas would amount to eighteen

guineas, in addition to the ten guineas which the Council were entitled to charge under the Charter, making a total sum of twenty-eight guineas—a sum which absolutely exceeded that charged for admission to any one of the colleges, and for three years' education. It might be said, "Well, then, increase your fees;" but until a scale of fees was agreed upon in England and Scotland, he did not see much prospect of that increase. He thought that by charging at the rate of the proposed scale the Royal College of Veterinary Surgeons would render itself liable to a false accusation. It was known throughout the profession that the College was exceedingly poor, and some unsuccessful students might say that they were rejected not so much for want of information as that the College was desirous of enlarging its funds. In order, therefore, to remove the grounds for any such accusation, he thought the students should be allowed to come up a second time for examination after being rejected once, without the payment of any fee, but that on coming up a third time they should pay the fee. This question had been agitating the Royal College of Surgeons, and the plan he was sketching was one which they were desirous of carrying out. They did not charge any man a fee for the second examination; nor did the Royal College of Veterinary Surgeons formerly charge a fee until a man had been rejected upon either his first examination or his second examination a second time. Then he was called upon to pay a fee of three guineas. The expenses being increased, shut the door upon the number of students coming up for examination. His own idea was that it would be more advantageous to all parties if the course were adopted which was, it might be said, the rule of the College at the present time. If a compromise were needed, he would not object to a small fee being paid, because it was neither right nor fair that the examiners should meet together without being paid; but at the same time the students should not be mulcted unnecessarily and driven out of the profession. There was no doubt that the numbers would be diminished for a year or two to come, by calling upon students to be three years at the College instead of two; and now it appeared to him that means were being taken to diminish the number in another direction. Under the circumstances, it was a matter for deep consideration whether some plan could not be found which would be less objectionable than the one which had been adopted by the Council.

Mr. GOWING said it was not a question of the College being poor, but one of justice and equity to the student. He agreed generally with the remarks that had been made by Professor Simonds.

Mr. COX took strong objection to the suggestion made by Professor Simonds that the Council would be actuated by mere mercenary motives. The Council had no other desire than to raise the status of the profession. If it was desirable to give the student an extra chance, let it be so, but at no loss to the College.

The PRESIDENT thought that in this matter it would be extremely desirable that the Council should adhere to the resolution they arrived at six months ago. The proposition made was now inconsistent with the general policy at which the Council arrived at that time. The proposition made by Professor Simonds was, he thought, injurious to the students themselves, because it was a premium upon idleness; and it would be injurious to the schools, because a lot of old and idle students hanging about a college were an injury to the younger students. He wished also to state his own belief that the students did not wish for what Professor Simonds had proposed. He believed that the Scotch schools did not wish for it; and he was, on the previous day, at a meeting of the Royal Veterinary College, Camden Town, and he found that the Governors and the Principal himself attributed the very excessive number of rejections during the last two years to the fact that the Royal Veterinary College charged only one fixed fee and thereby encouraged

idleness among the students. Regarding the idea that the students would suspect that the Examiners rejected them in order to get increased fees, he thought that the Council and the Court of Examiners could well afford to disregard any such idea. It should also be remembered that even under the new system there was very little gained out of students ; and he put it broadly on this ground—that there was no reason why the College should suffer a pecuniary disadvantage on account of the idleness of students, and he would certainly move that the College adhere to its present scheme.

Mr. COLLINS thought that if the bye-laws were abrogated the Council would be stultifying themselves. He agreed with the remarks of the President, and begged to second the motion.

After some observations from Professor BROWN and Mr. GREAVES, the motion was put and carried.

This concluded the business of the first meeting.

SPECIAL MEETING.

A special meeting was afterwards held, when the proposed new bye-laws were further considered, and some verbal alterations made.

The PRESIDENT said he should ask the Council to adopt the new bye-laws at the next meeting, and in the mean time to suspend in the Council-room any necessary alterations that might be made in them.

The Council then adjourned.

THE SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE quarterly meeting was held in the London Hotel, St. Andrew Square, Edinburgh, on Wednesday, December 13th, at half-past two o'clock—Mr. Balfour, of Kirkcaldy, President, in the chair. There were present: Professors Williams, Walley, Baird, Vaughan, Johnstone, and M'Fadyean ; Messrs. Robertson, Kelso ; Borthwick, Kirkliston ; Connachie, Selkirk ; Aitken, Cumming, Rutherford, Aitken, jun., Edinburgh ; Balfour, Markinch ; Young, East Calder ; Brown, West Calder ; Boyd, Melrose ; Connachie, Aytoun ; Jones, Dick's Veterinary College ; Dally, Bathgate ; M'Intosh, Dumfries ; Reid, Leith ; Cunningham, secretary ; and others.

Messrs. Connachie (Aytoun), Reid, M'Intosh, Dally, and Professor M'Fadyean were nominated as members. Election to take place at next meeting.

As office-bearers for ensuing year, Professor WILLIAMS referred to the manner in which the secretary (Mr. Cunningham, Slateford) had performed the duties of the office for the last four years, and proposed that he should be elected president. This being seconded by Professor Walley, was agreed to. As vice-presidents, Mr. Connachie, Selkirk ; Mr. Baird, Veterinary College ; and Mr. Rutherford, Edinburgh, were elected ; and Mr. Cumming, Rose Street, Edinburgh, treasurer and secretary.

The best means for the removal of irregularities and superfluous growths from the molar teeth was again taken into consideration. Professors Williams and Walley had tried Thompson's tooth shears since last meeting, and spoke favourably of them ; Professor Williams also showing a French instrument, of very neat appearance and construction, which he had found to act remarkably well. Mr. Robertson described a modification of this instrument which he had seen in use many years ago.

Professor WILLIAMS gave details of a case of Scirrhous Cancer in a horse—

the only instance of Scirrhous Cancer in the horse he had as yet met with. The parts involved were the external surface of the heart, roots of the large bloodvessels, and the capsule of the left kidney, the whole mass weighing 28 lbs. (heart included). Strange to say, no signs of illness had been observed till a fortnight before his death, and the symptoms then were those of heart disease, but of a rather obscure character. The Professor described the case minutely, and showed part of the diseased structure. In answer to inquiries, he stated that, along with Dr. Young and Mr. Vaughan, he had made a most careful examination (microscopically and otherwise), and had no hesitation in saying that the tumour was not of a fibrous or sarcomatous nature, but one of decided Scirrhous Cancer, and confirmed his opinion as to the existence at times of Scirrhous Cancer in the horse—a fact which he had been beginning to doubt, owing to the rarity of its appearance as compared with other forms of cancer.

Professor WALLEY showed a dried specimen of the heart of a cart-horse, in which ossification of the right auricle and dilation of the large veins entering into it had taken place to an extreme degree, the organ before being dried weighing 14 lbs. ; also another dried specimen of a pulmonary cyst, having a free communication with the œsophagus or gullet. The cyst was a very large one, involving the greater part of the posterior portion of one of the lungs ; and the great peculiarity about it was that the food must have had a regular passage to and from the cyst into the œsophagus—the food in it being as fresh as that contained in the stomach. How the animal could exist in such circumstances is difficult to understand. The case had come under the notice of Mr. Kettle, of Market Drayton, a friend of Professor Walley's—the case occurring in the practice of Mr. Walters, Newport. The animal was a three-year-old heifer, bought in March, cast calf in August, began then to droop and fail, and was destroyed on 16th October, under the idea that abscesses were forming in the lungs, and that her disease was scrofulous. About a fortnight before she was destroyed, an abscess formed in the arm, which was found to contain three half-pints of healthy pus. Professor Walley thought that the cyst had originated either in the lodgment of a foreign body in the œsophagus, followed by laceration of the œsophageal walls, and the ultimate formation of an abscess and cyst in the lung, or more probably that an abscess had been formed in the lung, which had emptied itself into the œsophagus, and thus established a fistulous communication. The formation of the abscess in the arm strengthened the latter opinion.

Mr. ROBERTSON stated, in connection with this subject, that he had seen a case in which a piece of turnip had been forced by a probang through the œsophagus, and was found lodged in one of the lungs, while around it the parts were in such a state as to make one believe that in course of time an abscess would be established. The animal lived eight days after the injury.

Mr. BAIRD said that there had been a good deal said about Rabies in dogs lately—that it was a long time since he had seen anything like a mad dog (in Edinburgh, at least),—but that some short time ago he had met with a case in one of the back yards or greens of one of the houses in town, with symptoms alarmingly like those of Rabies. A clothes-rope let down from the top of the wall round the animal's neck, and a little prussic acid afterwards, had, however, disposed of the matter very satisfactorily. Mr. Baird thought it was well that such an animal had been prevented from getting to the street.

Mr. RUTHERFORD (Edinburgh) made some remarks on the existence of *ante-mortem* clots. He had given the subject a good deal of attention lately. He found these clots most commonly in cases of Pneumonia--double Pneu-

monia especially—and in the pulmonary veins and left side of the heart. He thought the subject a very interesting one, and proposed that it should be taken up by some of the professors or others, and a paper read on the subject.

A very large clot, found by Mr. Baird on a *post-mortem* examination at a knacker's yard, was shown by Professor Walley.

The SECRETARY suggested that as Mr. Rutherford had given his attention to the matter, a paper from Mr. Rutherford himself would be most appropriate and acceptable. He could scarcely, however, believe that such an enormous clot as that shown could be formed, or forming, and the animal live forty-eight hours, or anything approaching to it. That *ante-mortem* clots were formed seemed beyond doubt ; but he had always—rightly or wrongly—looked on the large yellowish-white clots found frequently on *post-mortem* examination in many of the large bloodvessels and chambers of the heart as the result of the coagulation of the blood and other *post-mortem* changes.

The discussion on Professor Williams' remarks on "Fardel-bound," made at last meeting, was then proceeded with.

Mr. CONNACHIE (Selkirk) was inclined to adopt and approve of the views advanced by Professor Williams. During the course of a large practice for a considerable number of years, he had been of opinion that by far too much drastic purgative medicine was administered to cattle, and he had found much better and more satisfactory results from moderate purgatives followed by stimulants. The indiscriminate use of purgative medicine when impaction had become thoroughly established, or when inflammation of the stomach or of the intestines existed, could not but do an immense amount of mischief.

Mr. BOYD (of Melrose), since last meeting, had been called to six cases of "Fardel-bound" in one byre, caused by the eating of badly-frosted turnips. One animal was dead before he saw it. The others were treated by mild laxatives and sedatives and antacids, as recommended by Professor Williams, and made a good recovery.

Mr. BAIRD could not but insist on the existence of impaction of the stomach and bowels in all animals. He had lately had one of excessive overloading and distension of the stomach in a foal, in which the stomach and contents weighed at least 75 lbs. This enormous weight was almost incredible, yet such was actually the case ; and during his practice in Fifeshire, and elsewhere, he had frequently seen cases in which such thorough impaction and drying of the contents of the third stomach existed, that the organ might have been stood on or used as a football. His practice had been, when called in at the outset of such attacks, to administer a strong dose of purgative medicines, and repeat it if necessary ; and when purgation was freely established, little more had been necessary.

Mr. BALFOUR having to leave, Mr. Robertson was called to the chair. Before leaving, however, Mr. Balfour (Kirkcaldy) said he was frequently called to treat cases of "Fardel-bound" from various causes, and this had led him to make the suggestion which led to Professor Williams laying his views before the Society. He believed in purgatives at the commencement of the attack ; but if the impaction was simply the result or cause of inflammation of the fourth stomach or bowels, the treatment recommended by Professor Williams was certainly the most judicious.

Mr. MACKINTOSH (Dumfries) made somewhat similar remarks, and stated that for a long time he had been struck by the fact that on making *post-mortem* examinations of animals that had died from affections of the bowels, inflammation of the mucous membrane of the fourth stomach was almost invariably present. He thought that this fact had been too much overlooked. He was certainly indebted to Professor Williams for introducing the subject, and hoped good would result from the discussion.

Professor WALLEY deprecated the tendency shown by veterinary surgeons to mix up the various stomachic affections of the ox with intestinal derangements, and impaction of the omasum with Enteritis and Gastritis; and observed that the term "Fardel-bound" was not an unmeaning or barbarous one—as "fardel" signified a burden, and in this sense was correct, while the word "bound" was a provincial term synonymous with costiveness. Professor Walley further remarked: "The natural condition of the third stomach is not, as Professor Williams would have us believe, one of dryness: its condition in this respect depends materially upon the treatment to which the animal has been subjected for a few days prior to death. In all animals on grass or other succulent food, and having access to water, its contents are moist; while in those which have been fed on dry materials they are hard. Butchers invariably give straw to animals, and stint them of water, a few days prior to slaughter. Many of the cattle killed in Leith and Edinburgh are foreign animals, in which, from the allowance of hay (often dry and of inferior quality), from the forced inactivity of the voyage, and from the meagre supply of water, the whole of the contents of the digestive apparatus are in an unnaturally dry condition, as shown by the state of the fæces, which often resemble those of the ass. I am informed by Mr. Laws (a student of the College) that in France, and other continental countries where *octroi* duties are paid on the live weight, animals are stinted of water and food for some days before slaughter, in order to reduce their weight, and in those cases the contents of the third stomach are dry; but there is a material difference between this dryness and that of impaction: in the latter the food is like a baked cake, often capable of pulverisation, and when pulverised can often be blown away from the hand; in other cases it is hard and tenacious. Inactivity, leading to retention, of the third stomach is, as a rule (in the first instance), only functional. It is caused (1) by withdrawal of nervous force in brain and spinal affections, and in depraved conditions of the blood,—hence seen in Parturient Apoplexy, Red-water, etc.; (2) by interference with all the digestive functions in prolonged disease of any kind—as Pleuro-pneumonia Zymotica, Rinderpest, Eczema Epizoötica, Inflammation of lungs, liver, or bowels, etc.; (3) by paralysis of the coats of the stomach, as the result of irritation and over-exertion, brought about by feeding upon coarse, innutritious, irritating, or acrid food, or from the effects of medicines or poisons, especially lead compounds, and irritant vegetable poisons, as the ranunculaceæ. Impaction of the third stomach is a deranged functional disease, marked by well-known symptoms which distinguish it from disease of any of the other stomachs, and instead of being produced by succulent is usually produced by dry, indigestible, irritating, and acrid food, and food having a tendency to aggregate in masses—especially wheat, bean, or pea meal; it is also caused by half-dried turnip-tops, feg, coarse ryegrass (especially when seeded), undecorticated cotton-cake, wheat, buckwheat, barley, beech mast, acorns, etc. The earlier symptoms are simply those of digestive derangement, are not diagnostic, and are often accompanied by those of pulmonary congestion, —hence the mistake for Pleuro-pneumonia; they are irritable, or, as it is sometimes termed, skittering diarrhœa; the discharges, which seldom exceed four or five in number, are composed of serous fluid, with a quantity of half-masticated vegetable matter in suspension; the pulse and respiration are not much interfered with at the onset, neither are the mucous membranes heightened in colour, nor the temperature elevated; the appetite and rumination, however, are partially or totally suspended; the secretion of milk, in milch animals, partially suppressed; grunt and cough may or may not be present. In the course of a day or two the symptoms are aggravated, the grunt becomes more frequent, and, as time runs on, painful; the eye tolerably bright and anxious; constipation marked; and if any fæces are present in

the rectum, they are hard, dark in colour, glazed, and frequently streaked with blood; and very often small scibulæ are found adhering to the mucous membrane of the rectum (which is hot, dry, and red), giving rise to tenesmus and prelapse of the rectal mucous membrane; the region of the omasum is bulged and unyielding, and in the earlier stages pressure over it gives rise to an expression of inconvenience—in the later stages to one of pain; there is sometimes tympany of the rumen, but no pain is evinced on pressure being applied to it; and the same is true of the intestines, unless they become secondarily involved, from the irritation of the food or large doses of drastic purgatives. On the approach of death the animal gnashes the teeth, the eyes are retracted in the orbits, the limbs refuse to bear the weight of the body; in forced exertion the animal totters, brain symptoms supervene, and death is preceded by coma or delirium; muscular tumours are also sometimes observed. If the animal recovers, the fæces are usually for several days composed of half-masticated food from the rumen, afterwards of semi-fluid matter mixed with solid matter from the omasum, dark in colour, and having a fœtid odour—many days passing by in some cases before the whole of the ingesta from the omasum is expelled. These symptoms differ materially from those of Enteritis and true Gastritis, also from affections of the rumen. In the former, if diarrhœa is present, it is (except in the early stages) of a different character. There are in many cases colicky pains at the outset, with quick, irritable pulse, hurried respiration, infected mucous membranes, elevated temperature, pain on pressure over the whole region of the abdomen occupied by the intestines, and (usually) arrestation of the natural functions from the commencement. In impaction of the rumen there is rotundity of left side; the contents have a doughy feel, pit on pressure, and very frequently the stomach is elevated by a superficial layer of gas; there is almost invariably a grunt, and sometimes attempts at vomition, with an expression of inconvenience if pressure is applied to the organ. If ileites sets in, the grunt has a painful tone, and is replaced at intervals by an equally painful moan. There is excessive pain evinced on pressure, and if irritating medicines or cold water are introduced into the rumen. In those cases (as in vegetable poisoning) where the whole of the stomachs and the intestines are involved, no differentiation of the symptoms can be attempted. In true Gastritis there is excessive irritation from the outset, great thirst, pain on pressure over the region of the stomach, and much fever; but inasmuch as true Gastritis (except from the irritation produced by the lodgment of large masses of sand, gravel, or other foreign matter) seldom occurs without involvement of the intestines, we need not further allude to it. In impaction of the omasum, Gastro-enteritis is not, except as a secondary result, present; and I have seen an animal suffering from impaction for a fortnight without its making its appearance. As to the treatment of impaction of the omasum, I maintain that brisk purgatives are imperatively necessary at the outset,—not excessive quantities of sulphate of magnesia, as it produces nausea, but aloes and croton, with carminatives and treacle (the latter being of itself an excellent and safe purge), followed by the administration of linseed oil and stimulants, as carbonate of ammonia. If symptoms of inflammation set in, calomel and opium are more to be relied on than sedatives. The application of counter-irritants over the region of the stomach, the envelopment of the body in hot rugs, and the abstraction of blood, are all productive of benefit if judiciously employed; enemas are useless. It is simply madness to persist in the use of irritant purgatives if inflammation supervenes. The views I have expressed are the result of a large experience in some of the best dairy districts in the kingdom, and also in the dairies of several large towns and cities; and are endorsed by many of the best cattle practitioners in the midland counties with whom I have recently had opportunities of conversing on

the subject, and who, like myself, have had no difficulty in distinguishing the differentiative symptoms of true impaction of the omasum and inflammation, and derangement of the other stomachs and intestines, and of treating accordingly; and I have seen many farmers who could diagnose it with equal accuracy. In reference to the advent of brain symptoms in these affections, it is only in accordance with the well-known sympathetical bond existing between the digestive organs and the brain both in man and animals; but I know one practitioner who holds the opinion that brain symptoms are never seen in these cases except in lead poisoning. With this opinion I cannot agree, though I think that many cases are due to poisoning by lead and toxic vegetable matter, and frequently by large quantities of seeded rye-grass."

Mr. REID, Superintendent of Slaughter-houses, Leith, said that he had availed himself of the opportunities of examining the third stomachs of the cattle slaughtered at Leith, and found them always in the state described by Professor Williams and Professor Walley.

Another of the members said that the only objection he had to Professor Williams's views was that "Fardel-bound" should be considered from the outset as an inflammatory affection. No doubt at a certain stage, with the third stomach dry and hard, and inflammation of the fourth stomach existing or easily excited, drastic purgative medicine would simply destroy any little chance the animal had of recovering; and the remarks of Professor Williams and the treatment recommended by him were then all that could be desired. But he was anxious that "Fardel-bound" should not be taught as invariably resulting from inflammation of the fourth stomach and bowels. As an instance of this, he had lately seen a case—taken suddenly and seriously ill—with symptoms scarcely to be distinguished from those of an inflammatory character; and had a student or young practitioner with this theory in his head been called, and treated the case with a little oil and plenty of laudanum, belladonna, etc.. he believed the cow would have died; for the basket, left fortunately behind the animal, and the excessive quantity of decorticated cotton in it, showed plainly what was the cause of the mischief. Purgatives—and strong ones too—had been given; the bowels acted moderately, and the animal lived. He was therefore anxious that a little discrimination should be made as to the inflammatory or non-inflammatory stage of the disease. He was, however, greatly indebted to Professor Williams for his remarks on this, as on many other subjects; he was certain they would be productive of a great deal of good.

Mr. ROBERTSON, Kelso, remarked that, after what had been said, it was scarcely necessary for him to say much on the subject. The term "Fardel-bound" was generally understood to refer to a peculiar deranged condition of the third stomach, giving rise to a certain train of symptoms and appearances; and he was inclined to believe that there was a great deal of truth in what Professor Williams had stated. That impaction of the third stomach, as well as of the other compartments, did take place, was too well known to be disputed. The rumen, of course, was frequently the subject of distension; the reticulum was often the receptacle of enormous quantities of foreign bodies—old leather, nails, etc. He had never, however, seen the fourth stomach impacted to the same extent as the others; but the dried and baked condition of the manyplies mostly all present had too often seen. Still he thought that the naturally dry condition of the third stomach under certain circumstances had been too much overlooked and too frequently mistaken for disease. As Professor Williams had stated—that this was the natural condition at times he had no hesitation in saying, though at a slaughter-house deprived of water, and on dry sparing keep, the dryness would be greater than in ordinary healthy circumstances. On making *post-mortems*

he had frequently found the food caked between the leaves, and the epithelial covering peeling off even on the leaves when separated; yet he did not invariably consider *that* a diseased state. As regards treatment, purgatives at the outset in cases of impaction seemed called for; but when thoroughly and for a considerable time existing, or when inflammation is present, milder measures would be productive of more benefit by allowing the parts to rest a little, and perhaps tide over the difficulty.

Professor WILLIAMS, in replying to the remarks made, thanked the members for the attention they had given to the remarks he had made at last meeting, but said that there had apparently been some misconception by some members as to his meaning. He had not mixed up or confounded "Fardel-bound" with other affections of the stomach and bowels. Of course, he knew that repletion of the omasum often existed from dry food—decorticated cotton-cake or such like—that it was often seen from loss of function or other causes in Red-water, Parturient Apoplexy, and other diseases; but what he meant was that the affection called "Fardel-bound" was most frequently nothing more nor less than inflammation to a greater or less degree of the fourth stomach and intestines—more especially of the former; that the so-called impaction in such cases was simply the result of the inflammation; and instead of giving heavy doses of purgative medicine to clear off by storm the fancied obstruction, they should try by milder soothing measures to subdue the inflammation, allow time, and thus give the organs time to recover their tone and empty themselves of their contents. Professor Williams further said that there could be no doubt that a more or less dry state of the contents of the third stomach is their normal condition. Examination of a large number of third stomachs of cattle which had been slaughtered in a state of health showed their contents hard and dry and quite reducible to powder; but he must say he had never seen the contents so dry and light that they could be blown off the hand like so much cotton, as mentioned in the course of the discussion. The Professor also mentioned that since last meeting he had received many letters from veterinary surgeons in various parts of the country stating that they approved of his views; that somewhat the same ideas (they stated singularly enough) had been floating through the minds of many of them for many years, but that they had failed to put them into definite shape; but now, having tried the treatment, they had every reason to be satisfied with the result. Professor Williams also hinted that those who differed from him in opinion had apparently had many opportunities of making *post-mortem* examinations, but that if they would adopt or try his views and treatment, these opportunities might be fewer and less frequent.

A vote of thanks to the chairman closed the proceedings.

The next meeting, being the annual general meeting, will be held on the second Wednesday of February next, when the members will dine together.

C. CUNNINGHAM, *Secretary.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

THE above Association held its fortnightly meeting on Nov. 23rd, in the lecture room of the Veterinary College. Mr. J. M. Browning, President of the Council of Agriculture, and a number of prominent citizens of Montreal were present.

Mr. C. J. ALLOWAY, V.S., read a very exhaustive paper on "Roaring," and stated that from personal experience he was prepared to attribute the majority of cases to hereditary predisposition, and to the barbarous custom

of wearing the "bearing rein." The subject gave rise to a very lively and interesting discussion, which resulted in the approval of Mr. Alloway's views.

Communications were read by Mr. Baker on "Indurated Spermatic Cord," and by Mr. Ryan on "Fracture of the Inferior Maxilla."

Mr. BROWNING, on behalf of the Council of Agriculture, presented the Association with twenty-one volumes of valuable works, and in a few well chosen remarks expressed the satisfaction felt by the Council of Agriculture at the advancement made by the profession in this province, and their intention to aid its further progress by establishing a course of French lectures in connection with the College.

Mr. J. S. HUNTER, on behalf of the visitors present, in very appropriate and highly complimentary remarks, returned thanks to the President for his invitation, and expressed the satisfaction and pleasure derived from the meeting.

At the next meeting, December 7th, Mr. W. B. Hall was to read a paper on "Inflammation of the Lungs," and Mr. C. Herbert a communication in French.

At the close of the meeting the President exhibited some measly pork which had been seized by the Meat Inspector and sent by the Health Department for microscopic examination. He explained that the measle is enclosed in a stout, fibrous envelope, surrounded by a bladder-like vesicle, containing a transparent, gelatinous substance; the head, which is irregularly four-sided, presents four large suckers, and is armed with a circle of formidable hooks. This cysticercus, when eaten by man or dogs, produces tape-worms. He was informed by the Inspector that there was no scarcity of measly pork in the city; and Prof. Osler remarked on the prevalence of "tape-worm"—no fewer than 500 cases being known—and unless meat inspection was thoroughly conducted, there is no saying what might be the result. He was glad, however, to hear that it was in contemplation to appoint a scientific examiner to assist the inspectors.

The President and Prof. Osler then placed specimens from the pork under the microscope, and the hooks and suckers were beautifully seen. It may be inferred that none of the members ate pork for breakfast in the morning.

ROYAL COLLEGE OF VETERINARY SURGEONS' EXAMINATIONS.

AT the several meetings of the Court of Examiners of the Royal College of Veterinary Surgeons, held on January 3rd, 4th, and 5th, the following students from the Royal Veterinary College, London, received the diploma of the College, and were admitted members of the profession :—

January 3rd.

Mr. Percy Boulton Spooner, London.
„ Walter Vernon Tuson, Bow, Middlesex.
„ William Donald Gunn, Barrackpore, India.
„ James Edward Overed, London.
„ George James Brooker, Twyford, Berks.

January 4th.

Mr. Henry Turner Challinor, Pendlebury, Manchester.
„ Philip Vincent, Horndon-on-the-Hill, Essex.
„ Charles Syrett Syrett, Atterton, Essex.
„ Joshua Arthur Nunn, Hill Castle, Co. Wexford.

January 5th.

Mr. Augustus John Sherrott, London.
„ Thomas Sidney Barker, St. Faith's, Norwich.
„ Francis Raymond, London.

In accordance with the resolution of the Council, the Court of Examiners reported that Mr. Joshua Arthur Nunn passed with "very great credit" on January 4th.

Students who have Passed their First Examination, Royal Veterinary College.

At the several meetings of the Court of Examiners of the Royal College of Veterinary Surgeons, held on January 8th, 9th, and 10th, the following students from the Royal Veterinary College passed their First Examination :—

January 8th.

Mr. John Square Brunskill.
„ Frederick Robert Stevens.
Mr. Alfred Charles Turner.
„ John Dring.

January 9th.

Mr. James Cook.
Mr. John Rose.
Mr. Walter Barron Hart.

January 10th.

Mr. Alfred Mitchell Eadon.
„ James Gifford Stephens.
„ Samuel Oxton Langley.
„ Edward Allen.
Mr. John Herbert Callow.
„ Fred. Walewski Forsdyke.
„ George Reed Dudgeon.
„ Benj. Brodie Allshorn.

Army Veterinary Department.

Gazette, Dec. 29, 1876.

Veterinary Department.—The commission as Veterinary Surg. of William Alfred Crow to be dated 1st December, 1875, and not 29th November, 1876, as stated in the *Gazette* of 28th November, 1876.

Gazette, January 16, 1877.

5th Dragoon Guards.—Veterinary-Surg. Edwin Thomas Cheesman, from the Royal Artillery, to be Veterinary-Surg., vice Veterinary-Surg. of the First Class S. P. Constant, retired on half-pay.

4th Hussars.—Veterinary-Surg. Iles Matthews, from the Veterinary Department, to be Veterinary-Surg., vice Veterinary-Surg. of the First Class T. Paton, deceased.

Obituary.

WE have recently had imposed upon us the painful duty of recording the death of several valued and respected members of the veterinary profession in this country, some of whom had for many years served it honourably and well, and whose departure from among us was greatly deplored. But we may truthfully assert that we have never had to announce a death which caused us more unfeigned sorrow and regret than that of Mr. William Field, jun., of 224, Oxford Street, London. During the first week in January Mr. Field was engaged as a member of the Examining Board of the Royal College of Veterinary Surgeons, and terminated his duties therewith on Friday evening. The next day (Saturday, January 6th) he went out with the Surrey Staghounds, and during a heavy run his horse slipped in jumping a stile, and, it would appear, fell on him. According to one account, he managed to get up, walked a few steps, then dropped down and expired ; another report is that he never regained consciousness, and died in a few minutes from, it was presumed, dislocation of the spine.

Educated at Hanwell Collegiate School, our deceased friend was subsequently sent to Germany, where, under the tutorship of Dr. Helensdoffer, of Offenbach, near Frankfort, he remained until 1852 ; then he went to Paris, in order to complete his education ; and on his return to England was apprenticed to his father, Mr. William Field, whose name, and that of his family, has so long occupied a most distinguished place in our professional history. His apprenticeship terminated, he entered the Royal Veterinary College, and graduated as a veterinary surgeon on April 28th, 1858.

His subsequent career was most gratifying, and deservedly so. He was soon enlisted in the ranks of those who were earnestly striving to lift our science from the slough of despond and obloquy in which it had been allowed to lie for so many years ; and serving the office of Vice-president and Councilman, in 1867 he was elected President of the Royal College of Veterinary Surgeons, which honourable position he held for two successive years. At the period of his untimely and melancholy decease, he was President of the Central Veterinary Medical Society, in the prosperity of which he evinced the warmest interest since its formation, as was evidenced by his regular attendance, his contributions to its fund of knowledge, and the improvements he was constantly striving to effect in its organization and management.

An enthusiast in his profession, and grudging and sparing no effort or sacrifice to improve it, or to give it that place in public estimation which those who know its value feel that it ought to occupy, our lost friend laboured with an honesty and disinterestedness to achieve these objects which at all times commanded respect, and even admiration ; for only too frequently serious inconvenience, and sometimes something more exacting and formidable than inconvenience, had to be encountered.

The death of William Field would at any time have proved a grave misfortune to the veterinary profession in this country ; at this particular crisis in our existence his loss is an irreparable calamity, which only those who know the exact state of affairs can duly estimate.

From his professional position, his personal influence—due to his uprightness, unimpeachable integrity, a singularly attractive manner, as well as his social accomplishments—and his devotion to the welfare of veterinary medicine, he was a tower of strength to our Corporation ; and though he effected much—more, perhaps, than will ever be known to the majority of the profession—yet it was only a fraction of what he had purposed accomplishing. His reputation was probably as well known on the Continent as in this country, and his society was much coveted. He has left a deep gap in many friendships.

Personally, we have great reason to grieve at such a misfortune, and though our loss is doubtless more heavy than that of many others, yet the entire body of the profession has good reason to share with us, not only in the expression of this loss, but in extending their sympathy to those to whom he was a son, brother, or relative ; for their bereavement is indeed great, and they need all the sympathy man can bestow.

One of his hunting friends, immediately after the accident, on looking at him in the inn to which he had been carried, was greatly affected, and remarked, " Poor Field ! he was one of the best and most unselfish men I ever knew,"—words of truth, and the highest praise which could be offered to the memory of any man. We and all those who knew him will endorse them, and cherish them in loving remembrance of a good man, snatched from our midst by an inscrutable decree, and while yet in the sunrise of manhood.

It is also with much regret that we have to announce the death of Mr. Daniel Maclean, M.R.C.V.S., Glasgow, who died on the 31st December, aged 34. Mr. Maclean was the only surviving son of the late Mr. John Maclean, veterinary surgeon, Glasgow. He was educated at the Glasgow Royal High School, on leaving which he entered an accountant's office. This not falling in with his tastes, he joined the Edinburgh Veterinary College, and obtained the diploma of the Royal College of Veterinary Surgeons in 1861. He was gazetted to the Royal Artillery in 1862—having in the interval assisted the late Mr. Lawson, of Manchester. Serving for several years in India—during part of which time he was on the Remount Committee—he returned home, and was quartered at Leith Fort, where he had the opportunity of attending the lectures at his *Alma Mater*. He took a very great interest in the institution—his father having been a great friend of the late Professor Dick—and was a close observer of those events which ultimately led to a severance of the School and its then Principal, and to the foundation of the New Veterinary College, of which he was a warm supporter to the last. During the two years he was stationed at Leith Fort, he was of great service to the students —embracing, as he did, every opportunity of imparting clinical instruction.

He had a very wide circle of acquaintances and friends, took great interest in veterinary medical associations,—and when party interests or veterinary politics were discussed, perhaps, too warmly, a word or two and a laugh from Mr. Maclean would set things right again : not that he minced matters—on the contrary, he was remarkably outspoken—but what he said or did was done in such a way that no one could take offence. On the removal of his Battery to Newcastle, Mr. Maclean became tired of the army, with its small pay and slow pro-

motion, and sent in his resignation. This was reluctantly accepted by the then Principal Veterinary Surgeon, Mr. Wilkinson. His intention was to commence practice in some English town; but commercial matters that promised to turn out well falling in the way at the time, he gave up all idea of practising until these transactions had been concluded. As the time drew nigh for their termination, he became extremely anxious in mind, and his health showed symptoms of giving way. Had he lived a few months longer, his anxieties would have been at an end, and he would have been enabled to turn his attention again to the practice of his profession, unencumbered with any drawbacks. In 1873 he was elected a member of the Scottish section of the Board of Examiners of the Royal College. His death is a source of great sorrow to his many friends, who deeply sympathise with his widowed mother in the loss of her only son.

The demise of Mr. Joseph Beeson, M.R.C.V.S., of Amersham, Bucks, is reported. Mr. Beeson graduated February 4th, 1830.

That of Mr. Edward Morris Davies, M.R.C.V.S., of Shrewsbury, who graduated April 29th, 1868, is likewise announced.

Notes and News.

PEDIGREE OF THE HORSE.—An interesting lecture was given at the opening of the session of the London Institution, by Professor Huxley, on "Some recent additions to our knowledge of the Pedigree of the Horse." Mr. Huxley began with a comparison of the skeletons of the horse and polar bear, pointing out the similarity in the regions of the skull, the correspondence of the number of joints in the neck (irrespective of the length of the joints), the number of joints in the vertebræ and tail, and the points of agreement and those of divergence in the teeth. Dwelling chiefly on the marked differences in the bones of the legs of the two animals, and still more particularly on the distinction between the foot of the bear and that of the horse, the Professor proceeded to illustrate the gradual changes which fitted the horse for running over fields and roads, and left the bear suited for climbing and making his way over ice. Laying down the proposition that it belonged to the general plan of mammalia to have five toes on each foot, these became reduced to four in the pig, three in the rhinoceros and tapir, two in the cow, and one in the horse, sheathed and protected similarly to the claws of the bear. Whatever notions might be held with regard to the origin of animals, the facts of a common ground-plan in the horse and the bear were just as true as that an architect had a common ground-plan for various structures. The aim of science was to go back as far as possible and trace the various modifications. Shocking as might be the idea that the bear and the horse had a common origin, it was not more ludicrous than that of the earth moving instead of the sun rising must have appeared to common-sense business men a few centuries ago. Palæontology furnished traces of such a transition as must have taken place in the horse if the doctrine of evolution were true. Remains of the horse in the latter tertiary period were like those of the existing horse. In the remains of the upper miocene there was a little difference in the teeth, and an extra small toe like a dew-claw. The horse of that period, ancestor of the present horse, was called "hipparion." Working back into the older miocene, there had been discovered in France,

Germany, and the United States, remains of an animal first described by Cuvier under the name of the paleotherium—a creature differing from the hipparion as much as the hipparion differed from the horse. Instead of the mere dew-claw the animal had three toes, the fibula was complete throughout, and the ulva was quite a distinct bone. From this Mr. Huxley passed to the great area eastward of the Rocky Mountains, where a large inland basin received in the mud of the older tertiary period the remains of animals which had flocked about its shores. In these miocene rocks Professor Marsh found within the last six years remains of the ante-hippus, and the oldest miocene (the mezzo-hippus), in which he found the rudiment of a fourth toe. Then in the eocene was found a creature called the aura-hippus, not much larger than a fox, but having equine peculiarities, with four complete toes. So far as thus shown, the history of the horse was exactly in accordance with the doctrine of evolution. In the lacustrine deposits, which preceded the eocene, it was certain that there would be found equine remains of the mammalian form with five toes on each foot ; and then the history of the horse would be as complete as any such history could be. The reason was such to his mind, that he did not care to discuss longer the theory of evolution. What was true of the horse was true of other animals, because it would be preposterous to suppose that nature had not built others on the same plan, and carried out the same fundamental idea.

Foot-and-Mouth-Disease in Chili.—We learn from the *Edinburgh Medical Journal* that this malady has been conveyed to Chili, South America, by herds from the neighbouring Argentine Republic in 1871.

Unusual Precocity.—Mr. C. C. Phelps, of Vernon, Oneida Co., N.Y., reports to the *Country Gentleman* that he has a grade Holstein heifer, one year old last March, that began giving milk in July, and now yields about two quarts a day, having never been in calf. She was served for the first time on the 21st of June.

Stock in Australia.—An Australian return shows the number of live stock in the Australian colonies at the close of the year 1875; but the return for New Zealand is for 1874. The number of sheep, without counting about 12,000 in Bass's Straits, is 63,845,719, or more than double the number in Great Britain. There are no less than 24,382,536 sheep in New South Wales, 11,749,532 in Victoria ; 6,179,395 in South Australia ; 7,227,774 in Queensland ; 11,704,853 in New Zealand. The cattle are 6,884,527, a larger number than in Great Britain ; nearly half the cattle—3,134,086—are in New South Wales ; and Queensland, with its 1,812,576, stands next. The horses have increased to 935,252, the number in New South Wales being 357,696, and there being 196,184 in Victoria. The pigs are 673,729, of which number 199,950 are in New South Wales, 140,765 in Victoria, 100,562 in South Australia, 123,921 in New Zealand.

A Hog Epizoöty in America.—A new and fatal hog disease has broken out in Wabash county, Indianopolis. From 1500 to 2000 died in the vicinity of Lagro within a few weeks. It affects the lungs and windpipe, and is known as the "Blue Tooth."

The Dog Tax in Great Britain.—In this country in the last financial year, as many as 1,373,936 licenses, at five shillings each, were taxed. The amount of duty charged was £343,484, and the gross amount of revenue received was £343,398 5*s*.

Cattle Plague at Altona.—The Cattle Plague broke out at Altona on January 13th, and the export of cattle has been completely suspended in consequence. The disease was introduced by foreign beasts.

Correspondence.

SERVICE IN THE ARMY.

To the Editor of the VETERINARY JOURNAL.

SIR,—The September number of the *Veterinary Journal* contains some very sensible remarks from the pen of "Ubique" on this subject. With the view of pointing out a few more of the causes that tend to render service in the army so discouraging, I am induced to ask permission for a short space in your columns.

As already stated by "Ubique," the majority of young gentlemen who enter the Veterinary Department of the army take that step without possessing a correct knowledge of the prospects which attend the career of an army veterinary surgeon. One would suppose that their parents or guardians would first satisfy themselves as to the merits or demerits of such a position in the service, before launching forth their charge on such a career; yet, strange to relate, few take the trouble to ascertain what advantages the army holds forth for young men. It is not until a veterinary surgeon has served for a year or two that he begins to (as stated by "Ubique") "discover the Dead Sea nature of his apple."

During his stay at Woolwich, his expenses are considerably less than they will be when he proceeds to some out-station. While at Woolwich he is not obliged to furnish himself with horses, etc., but when he is posted to a brigade he will have to supply himself not only with them, but with regimental saddlery and a host of other little *et cæteras*, which, when reckoned up, show plainly that one needs a fair balance at Messrs. Cox's in order to meet every demand. Considering, at the same time, that one has to pay a monthly mess bill of from £9 to £12, it will require the strictest economy to make both ends meet. How few young army veterinary surgeons ever think of contrasting both sides of the picture till the matter is forced upon them!

Perhaps I may succeed in drawing a more correct view of the situation, if I trace my own career for the first couple of years' service. Having joined at Woolwich with scarcely any idea of the advantages or disadvantages of an army life, and not burdened with too great a supply of this world's wealth, I was ordered to furnish myself with the necessary outfit, which cost me something like £30. In addition to this, I had to supply myself with a certain amount of furniture, etc.

Now, it is reasonable enough that one should furnish his own apartments, but I could never see the necessity for being obliged to supply myself with uniform—until such time, at all events, as my name appeared in the *Gazette*. What can be so absurd as to compel young gentlemen to don the uniform of Her Majesty, when in reality they are not officers? Veterinary surgeons on probation possess no commission; and that being allowed, why put them to the expense of purchasing uniform? It is quite time enough for them to provide themselves, when their names appear in the *Gazette* as veterinary surgeons. Having spent sufficient time at Woolwich to gain an idea of my duties, I was ordered to an out-station, where mess expenses ran very high; and very little was left out of that wonderful "ten shillings a day" to pay two servants, supply them with clothes, and meet the hundred-and-one other little calls that attend such a position. I have not mentioned the foraging of two horses, and the wear and tear of saddlery, lest some one may remark, "Oh, but you receive three shillings and eightpence per day extra for their keep." So I did, I admit; but their original cost of £100 was *not* the result of my savings since I joined. That was about the time when a good deal of

the glitter was wearing off, and affairs began to wear a more real aspect. It is only about this time that bills begin to pour in, which "ten shillings a day" fails to meet, and the zealous soldier begins to yearn for the bright East and Rs. 377·8 per month! The army veterinary surgeon then applies to be sent to India; he sells off his horses, pays his debts, and starts for that country. In that "grilling" land he must again begin life,—furnish a house, purchase charges, etc.; but then in India he does everything in a most princely fashion, with the aid of the Indian Jew (the Battery banker), who will give the "Sahib" as much money as the "Sahib" wants—at 30 per cent

Young gentlemen having an idea of joining the Veterinary Department of the Army owe a great deal to "Ubique" and others, who have pointed out its drawbacks. Thanks to the *Veterinary Journal*, any young man who has perused its pages must have a pretty fair idea of some of the shortcomings of the army, as affecting veterinary surgeons.

I can fully endorse every word written by "Ubique" in the *Veterinary Journal;* and I am certain the editor will be ever ready to open his columns to any one who is desirous of obtaining information on army matters, previous to taking the serious step of presenting himself for admission at Woolwich; I am equally sure that there are many army veterinary surgeons who will gladly answer any questions which the young civilian may feel anxious about.

To those desirous of entering the Veterinary Department of the Army at once, or when vacancies offer, I would say *don't.* Army veterinary surgeons have been living on in hopes of getting a new warrant, which was promised months ago; but I presume it will take years before it will see the light. It was under consideration in 1870; but in consequence of the large number of applicants that came forward every year, the authorities very wisely (?) held back and pigeonholed the document.

As certain as young men enter the Department on the present miserable pittance, so certainly will they regret the step. Both in England and in India money has not the same value as formerly; living has become much more expensive of late years, and the *habits of people in the army have become more luxurious.* I could add much more to what I have already written, but I hope my remarks may have the effect of opening the eyes of aspirants for the army.

Doubtless, the military authorities will always succeed in obtaining a certain number of young men to fill the vacancies; but it is to be hoped that the present head of the Department will decline to accept any but those fitted for the service in every respect.

The Veterinary Department of the Army is doing excellent work, and its services are being recognised daily; so let us hope that some inducement will be held out for good men to come forward. The service in India is short-handed and over-worked, and men are beginning to despair of ever receiving anything from the authorities.

It is to be hoped that these few lines will meet the eyes of those for whom they are particularly intended, and that young civilians will profit by them. Rely on it, the receipts of a civil practitioner must be miserable indeed if they do not succeed in ensuring as much independence and comfort as the "ten shillings a day" of army veterinary surgeons; and let nobody in civil life suppose that his cares end when he becomes an officer,—but rather let him bear in mind the proverb that "All is not gold that glitters."

I have the honour to be,

Yours obediently,

"MAX."

PROUT *v.* PARADISE.

To the Editor of the VETERINARY JOURNAL.

SIR,—I beg to ask the favour of your inserting inthe *Veterinary Journal* a list of subscribers to the "Paradise Fund," as probably it will induce members of the profession to acknowledge more energetically the justness of appealing for a practical expression of sympathy with him. I feel it to be my duty to state that I have written to members in the principal towns of Cornwall, Devonshire, Dorsetshire, Gloucestershire and Somersetshire, and with only one exception have I received a reply. I also wrote twice with a like result to the member who had law proceedings commenced against him in reference to his examination of a horse lame from chronic Navicular Disease, and reported by myself in last July's *Veterinary Journal.* A reference to the *Lancet* will show how quickly the medical profession makes good any loss sustained by a member under such circumstances. The veterinary subscriptions sent to me were voluntary, and forwarded without solicitation.

	£	s.	d.
Gloucestershire friends ...	198	11	6
Lancashire Veterinary Association	31	0	0
Mr. Thomas Greaves ...	5	0	0
„ W. T. Stanley.....	2	2	0
„ W. C. Bland	2	0	0
„ A. C. Cope	1	1	0
„ John Gerrard	1	1	0
„ T. D. Broad	1	1	0
„ J. M. Broad.....	1	1	0
„ W. J. Jermyn	1	1	0
„ J. C. James	1	0	0
„ N. Leigh	1	0	0
„ J. L. Barling	1	1	0
Mr. F. W. Barling	1	1	0
„ W. Barling	1	1	0
„ Thomas Aubrey	0	10	6
„ R. C. Edwards	0	10	6
„ T. Radford	0	10	6
„ P. Mannington	0	10	0
„ J. Moon	0	10	0
„ G. P. Mallett	0	5	0
„ C. Groves	0	5	0
„ Thos. Barker	1	1	0
„ H. Olver	1	1	0
„ Editor *Veterinary Journal*	1	1	0
„ Perrin & Carless.....	2	2	0

Yours very truly,

Bath, *December* 1876. THOMAS D. BROAD.

SECTION OF THE CERVIX UTERI.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—Having received Part V. of your "Veterinary Obstetrics," I observe that you refer to an article of mine on *Indurated os* and *Cervix uteri*, which appeared in the *Veterinarian* for October, 1872.

In the *first case* reported by me in that article, the subject was a seven-year-old black cow, on which I operated by incision (by making two side cuts up and out), and extracted two living calves. Both calves and cow did well.

More than this, however—and what induces me to write to you at present—is the fact that, having made a speedy, good, and perfect recovery, the said black cow was in due course again served with the bull—and the following season produced (without any uncommon disturbance) a living calf! Thus showing that incision of indurated os and cervix uteri is no bar to future productiveness of a perfectly normal character.

Considering this to be an extremely important phase of the matter, I thought it necessary to inform you.

I am, faithfully yours,

Banff. W. MACGILLIVRAY.

PRECOCITY IN THE BOVINE TRIBE.

To the Editor of the VETERINARY JOURNAL.

SIR,—In your last November number there was a case of early precocity in the bovine tribe by L. T. Barker. Once having a case of the sort, I thought I would look up some records of it, but I find that Mr. Barker's case beats mine. However, I send you the owner's notes on the case—not having kept a record of it myself. As the owner observes, the most astonishing thing was the calf being served by a two-year-old bull; both were in the same shed, and the bull was always kept tied up, so that the calf must have deliberately got under him.

Yours very truly,
T. BLAKEWAY, M.R.C..

Stourbridge, *Dec. 27th*, 1876.

"Castlebourne, Belbroughton, near Stourbridge, *Nov.* 22, 1876.

"DEAR SIR,—In reply to your inquiry as to my Jersey heifer, I have to state that she was calved July 11th, 1873; her mother was a heifer, and being a very choice one and rather delicate, I did not wean the calf, but let both run together. The calf got to my two-year-old bull, and was served during the month of January, 1874; the creature was taking milk from her mother at the time she calved a heifer calf, on the 11th of October, 1874, being fifteen months old to the day. I have her and the calf now; the latter was about the size of a lamb when calved, but I allowed the mother to rear it, and it is now two years old, and is one of the best animals in my herd. I shall be glad to give you any further information on the subject that you may require.

"I think the fact of the animal being served by a bull two years old quite as astonishing as the early age at which the heifer took him. How it was managed is a mystery to me, as she could not stand under him; and being so young and small, the wonder is she was not over-bulled. I can positively testify to these facts, as there was no other bull or bull-calf on my premises or in the neighbourhood.

"Yours truly, H. P. PARKES.

"F. Blakeway, Esq."

PROFESSIONAL PROPRIETY.

To the Editor of the VETERINARY JOURNAL.

SIR,—Your pages have recently given admission to many letters on the subject of the *status* of the profession, professional morals, etc., etc. Will you kindly give me space for a few additional remarks on this subject? Somehow or other, we do not, as a body, occupy that position in the estimation of the public which, as members of an enlightened and learned profession, we ought to claim. There are undoubtedly honourable exceptions to this rule. There are members of the veterinary profession who would adorn any position in life; there are many who can hold their own in any society—who are, in fact, gentlemen by instinct, by education, and indeed by birth. Unhappily, these are too few to leaven the mass, and the profession at large suffers from a stigma which it owes to those of its members who are deficient in gentlemanly feeling, and guilty of the meannesses which bespeak little and narrow minds. There is nothing degrading in our profession, of itself. There is no reason why we should not occupy the same social *status* as the medical man; but we do not. And why? The answer is at hand. The

respectable public sees men who are properly qualified, all around it, whom it cannot respect, and with whom it does not care to associate.

Mr. Broad, of Bath, has written a very able letter in your last month's journal, on the subject of professional morals, and I hasten to endorse the opinion which he therein expresses, that "if veterinary surgeons would only do their duty to the profession, as well as to themselves, we should soon not require many special Acts of Parliament."

Mr. Broad, also, in his letter, in speaking of consultations, says there is still a great deal of jealousy about allowing another veterinary surgeon to be called in when a case is under treatment. This is undoubtedly true; and it will continue to be the case so long as we have members of the profession who are mean enough to insinuate privately to the owners of animals that their cases have not been properly treated.

I well remember a case in point, which will serve as an illustration of the kind of individual of whom I am speaking. Some years ago, a friend of mine called into consultation a veterinary surgeon whom he did not know personally, but who was well known to him by name as being in large practice in a manufacturing town some forty miles distant. The case was a serious one, and one of a large stud of hunters; and the horse ultimately died. But the worthy and eminent gentleman—who, by-the-bye, was then, and is at the present moment, a member of Council of the Royal College of Veterinary Surgeons—did not lose the opportunity of so ingratiating himself with the stud groom, who was virtually master, as to ensure to himself the future treatment of the whole stud.

It would not here, perhaps, be out of place to state that this very eminent practitioner, by means of a very low tender for treatment of the Companies' horses, has a free railway pass on one or two lines, and uses this privilege to his own benefit and the injury of his colleagues (so far as lies in his power); inasmuch as he is not above travelling thirty, forty, or even more miles, and examining a horse or performing an operation for the same fee as would be charged by the local veterinary surgeon. It is perhaps needless to add that this practitioner is possessed of the most unblushing effrontery, and has indeed been known to call at gentlemen's houses—more particularly those who keep large studs of hunters—just to see if perchance they want a horse "fired," or require a dozen or two of cough balls!

I am afraid that this sample of the eminent consulting practitioner is by no means scarce; and all the Charters and Acts of Parliament in the world will not convert such men into gentlemen. What is the use of the ordinary practitioner striving to uphold the dignity of his profession by charging proper professional fees, when another, whose name being well known in the district, and whose reputation (like that of prophets) being the greater the farther he travels from home, is ready and anxious to perform the same services for half the money? Such men, I say fearlessly, are a disgrace to us, and hang like millstones round our necks: if not dragging us backwards, at least effectually barring our progress, and preventing us from taking that position, as a body, to which we should otherwise be entitled. I look upon it that the only way to improve this state of things is to insist upon a far higher educational standard than that which at present obtains. The preliminary examination at our colleges is little more than nominal, and I believe quite insufficient, although I am free to admit that its influence has already been felt. This, however, should be an incentive to increase the standard; as by such means alone can we ensure the admission into our ranks of men who will command the respect of the public and elevate to its proper level the name of their profession.

I am, sir, yours very faithfully,

Shrewsbury, *Jan.* 6, 1876. W. G. LITT, M.R.C.V.S.

ANSWERS TO CORRESPONDENTS.

"WIGTON."—1. We believe that the course of instruction given at the Edinburgh Veterinary College in the subjects mentioned, is quite sufficient for the minor examination of the Pharmaceutical Society. 2. Chauveau's "Anatomy of the Domesticated Animals" (published by Churchill); Finlay Dun's "Veterinary Medicines"; Bentley's "Botany"; Wilson's "Chemistry"; Kirke's "Physiology"; Green's "Pathology and Morbid Anatomy"; Williams' "Veterinary Surgery" and "Veterinary Medicine."

"VETERINARY STUDENT."—The curriculum of study at the three national veterinary schools of France is the same. In the first year the subjects are: osteology, arthrology, myology, exterior of animals, elementary botany, physics; in the second year: splanchnology, neurology, etc., chemistry, physiology, histology, botany—families; in the third year: general pathology, materia medica and therapeutics, zoology, agriculture, hygiene, internal pathology, surgery; in the fourth year: obstetrics, jurisprudence, farriery, zootechny, sanitary police, continuation of pathology and surgery. The Alfort and Lyons schools have each a farm attached, for instruction in practical zootechny and agriculture.

PROFESSOR LIAUTARD.—Only one of the persons alluded to is a member of the Royal College of Veterinary Surgeons. There can be no doubt that advertising in newspapers, and by means of pamphlets and cards, is unprofessional and blameworthy, and should be discountenanced in every way. The United States Government should be urged to suppress quackery and imposition, which appear to be rampant in America. By the Supplementary Charter, recently obtained, the Council of the R.V.C.S. is empowered to remove from the Register the name of any member who misconducts himself.

"IMPOSITION."—We are informed that a Mr. A. S. Bradley, said to be a rejected student of the Royal Veterinary College, is advertising himself as a "veterinary surgeon" in Dudley.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from W. Robertson, Kelso; "Wigton"; G. A. Rolls, Arundel; J. Lambert, 17th Lancers; C. Stephenson, Newcastle-on-Tyne; C. Cunningham, Slateford; "Max"; T. D. Broad, Bath; J. Gerrard, Market Deeping; T. Blakeway, Stourbridge; W. N. Macgillivray, Banff; Professor Liautard, New York; "Veterinary Student"; W. E. Litt, Shrewsbury; A. Harthill, Louisville, Kentucky; Professor Smith, Toronto, Canada; J. W. Hill, Wolverhampton.

BOOKS: *S. Sidney*, The Book of the Horse; *W. N. Hutchinson*, Dog-Breaking; *M. Baker*, Kirke's Handbook of Physiology; *D. McEachran*, Contagious Diseases in Cattle; *D. Rueff*, Die Handswuth; *Zurn*, Die Wuthkrankheit der Hunde und ihre Gefahr; *P. R. Brücher*, Grundzuge der Mechanik des Hufes; *A. W. Blyth*, Dictionary of Hygiene and Public Health; *E. D. Mapother*, A Manual of Physiology; *E. F. Gurlt*, Ueber Thierische Missgeburten.

JOURNALS: *Medical Press; Deutsche Zeitschrift für Thiermedicin; Wochenschrift für Thierheilkunde und Viehzucht; Archives Vétérinaires; Journal de Médecine Vétérinaire; Recueil de Méd. Vétérinaire; Annales de Méd. Vétérinaires de Bruxelles; Der Thierarzt; Revue Vétérinaire.*

NEWSPAPERS: *Montreal Evening Star; Melbourne Argus* (4 copies); *Farmer; Agricultural Gazette; Newport and Market Drayton Advertiser; Field; Live Stock Journal; Sporting Gazette; National Live Stock Journal; Melbourne Leader; Australasian; North British Agriculturist; Times; British Mail; Land and Water; Times; Melbourne Leader; Melbourne Herald; Melbourne Age; Leeds Mercury; Irish Times; Birmingham Daily Gazette.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MARCH, 1877.

ANCIENT HORSESHOES DISCOVERED AT OXFORD, AND A SO-CALLED "HIPPOSANDAL" FOUND AT SPRINGHEAD, NEAR GRAVESEND, KENT.*

BY GEORGE FLEMING, F.R.C.V.S., ROYAL ENGINEERS.

THE subject of Horse-shoeing is one which possesses a high interest for the historian and archæologist; but most of all, perhaps, for the veterinary surgeon. For the historian and antiquary it owes its interest principally to the great influence the art of shoeing has exerted on the progress of civilization, and on the domestication, increased utilisation and perfecting of the most important creature ever reclaimed from a wild condition by man.

There can scarcely be a doubt that but for the invention of a rim of iron attached to this animal's hoofs by means of nails, the progress of Western civilization would be greatly behind what it is to-day; indeed, we can scarcely realise in what position affairs would now stand with mankind over a large portion of the earth's surface, had the services of the horse not been called into requisition early and almost universally; while those services would have been incomparably trifling—at least

* Read at the meeting of the Central Veterinary Medical Society, in December, 1876.

in moist countries with artificial roads—had the ingenuity of man not devised a simple and wonderfully efficient hoof-protection, such as that now employed, and which has in no respect been improved for many hundreds of years.

If we only look around us in the streets of this great city, or in those of any other of the busy towns and cities in this country, and reflect for a moment as to what would be the result of suddenly depriving all the horses of their shoes, and preventing their being shod again for a week or two, we shall come to the conclusion that the farrier's art is an essential item in the scheme of civilization and material progress, and that without it we should soon have our rate of speed checked. Indeed, it is not improbable that but for this humble but most useful art, the horse species in many countries would soon degenerate, and become even less valuable than it is in very primitive regions, where nothing has been done to improve it. What would our mammoth dray horse be without shoes? Why, after two or three hours' travelling he would only be fit for a soft paddock or strawyard—there to move at his leisure and be looked at, like an elephant in the Zoological Gardens. And what would become of our hunters, our heavily-weighted cavalry horses, and our harness horses which we breed to such perfection? They would simply die out, and we should have to trust to other means for traction and locomotion—means vastly inferior in some respects, and certainly less interesting in all.

To the veterinary surgeon the art of horse-shoeing is indeed extremely important, as it is closely related to the improvement and well-being of the horse, in that it ministers to the preservation of one of the most wonderful organs with which the anatomist and physiologist has to deal, and because that on the healthy condition of this organ depends the usefulness of this animal.

The history of this art scarcely yields in interest to many for which high claims have been made. In our "Horseshoes and Horse-shoeing" we have endeavoured to show how engrossing, instructive, and curious it is, and how intimately it is bound up with our own history.

We need not now enter upon a consideration of the result of

our investigations into the antiquity of the farrier's art. We have shown that many of the opinions with regard to the probable period when horses were first shod with iron shoes must be discarded, and that we may go back many centuries—to a pre-historical age almost—and find them much of the same shade and character that we see them to-day. On the continent of Europe they have been found with remains belonging to Celtic or Gaulic times, and in some instances probably to a distant pre-Roman period.

In this country it is continually stated, in books recognised as standard and trustworthy works of reference, that the art of horse-shoeing was introduced by William the Conqueror. This was the result of the researches of our own Bracy Clark—one of the most learned and original men the veterinary profession in Britain has produced. But our investigations demonstrate in the clearest manner, that long before the Normans—perhaps even before the Romans—invaded our island, horses were shod, and well shod, too ; and that the farrier was an important personage, by virtue of the immense benefit he rendered the community, and more especially the kings and warriors, from whom he received special privileges. Our written evidence on this point is based, among other matters, on the laws of Howel the Good, which are only a revision, made at the very commencement of the tenth century, of laws that may have been in existence ages previously ; our unwritten evidence is based on antiquarian "finds" in various parts of the country, the antiquity of which might be disputed if we did not have correlative testimony to guide us in the matter.

One of the strangest facts in connection with these ancient British, Gaulish, or Roman horseshoes, is their similarity in size and identity in workmanship. Their size is small—between four and five inches in diameter ; they seldom weigh more than five ounces, and were evidently worn by very diminutive horses—probably twelve or thirteen hands in height. This universality in size of shoe would indicate that the breed of horses in these islands and on the Continent, in these primitive times, was generally small and light—something of the Exmoor, Dartmoor, Shetland, Kerry, and Welsh pony stamp.

With regard to workmanship, all the shoes I have examined, and which have been found in the Gaulic graves of Alesia, in ancient graves and other situations in Belgium, Switzerland, and Germany, as well as in this country, might have been forged by the same hand for the same animal; almost proving what has been suggested in the work referred to—that this art, like some

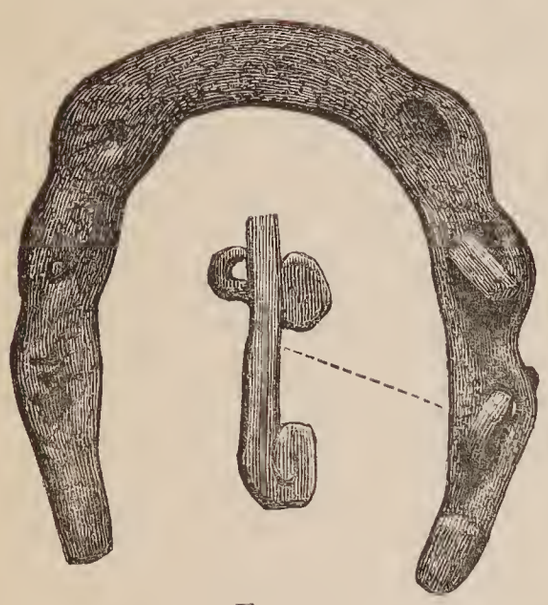


FIG. 2.

FIG. 3.

FIG. 4.

others of that early period, may have only been practised by the Druid priests, and these conformed to one universal standard. At a later period—as in the Saxon and Norman times in this country—we find several, and very diverse, kinds of horseshoes in use.

The characteristic features of this ancient shoe, besides its

smallness and lightness, are its undulating border, peculiar round nail-holes, socket for the head of the nail—which is very large, and a rolled calk. The undulating border is produced by the manner in which the long and wide oval cavity for the head of the nail has been made. The nail-holes are round, and generally six in number; though rarely a seventh is placed at the toe, in all likelihood to act as toe-clip—of which I have never been able to find a trace.

The nail-heads are very large, and stand as high above the shoe as the calk, so that when newly shod each foot had eight projections to seize the ground with. Owing to the largeness of the head, it was necessary to imbed its base in the shoe, to prevent its being twisted out. The nails appear to have been driven through the wall of the hoof, and their points merely turned down on the face of the wall (figs. 2, 3, 4).

All these characters and peculiarities you will find in the three specimens of shoes kindly presented to me by Mr. G. A. Rowell, under-keeper of the Ashmolean Museum, and which were recently found, with several others, during excavations at Oxford. I have examined the other shoes, which are like the specimens laid before you, except that one has a nail-hole at the toe, and is in excellent preservation. As the subject is one of so much interest, I cannot do better than quote what Mr. Rowell says with regard to their discovery and antiquity, his high reputation as an antiquary giving great value to his remarks. Writing to the *Oxford Times* in June last, under the heading of "Romano-Celtic Remains in Oxford," he says:—

"During the recent drainage works in Titmouse Lane (leading from the Canal Wharf to the Old Castle) several iron horse-shoes of a peculiar form were found at about fifteen feet below the surface. One, from a sort of clay not far from the Castle, is bronze-like in appearance, and, although somewhat worn, as bright as if just made; the others were from a mixed soil, and are more or less encrusted with it, but there is not a speck of rust on any of them, although it is probable they had been under-ground from Romano-British times.

"From Fleming's exhaustive work on 'Horseshoes and Horse-shoeing,' it appears that neither the Greeks nor Romans, until a

century or two after the Christian era, shod their horses with metal, or at least with such shoes as were nailed to the feet; but that horseshoes similar to those now in question have been found, with the well-known celts and other bronze articles, in Celtic and Gaulic graves on the Continent and in Great Britain: all such horseshoes being small in size and similar in form, showing that the horses of these regions in those days were diminutive as compared with those generally used in later times. The quality of the iron of one shoe has been tested by Mr. Neill, of Cornmarket Street, who states that it is of the very best quality, and such as it would be difficult or hardly possible to procure in the metal market. The shoes (with a hoof-picker found with them, and in a similar condition) * will be deposited in the Ashmolean Museum.

"The following description of a horseshoe found at Gloucester will apply in every respect to the one above alluded to, except that the latter has been worn, and has seven holes, one in the front, in which it differs from all those found at the same time, and, with one exception, all that are figured in the work referred to.

"'Some years ago, when laying down sewers in the town of Gloucester, many relics of antiquity were disinterred in the excavations. In Northgate Street, at a depth of eight or ten feet below the present level, which is also the usual depth at which all other Roman remains (such as tesselated pavements and the like) are found, and some seven or eight inches below the pitched Roman road (*via strata*), were found a number of horseshoes and other articles of the Roman period. Two of the shoes I have had the opportunity of inspecting, and they correspond in every particular with those already described as belonging to this period. One of them is the most perfect specimen I ever saw, and is so little affected by its long sojourn underground that, but for the fact of its having been found with fibulæ, a lamp (*lucerna*), and other characteristic memorials of the Roman era, together with its peculiar form, one would be perfectly justified in asserting it had recently come

* We are of opinion that this so-called "hoof-picker" is the key of a door. It is a most ancient article.—Ed. *V. J.*

from the anvil of the blacksmith. It has never been worn—a circumstance to which its high preservation is partly due; the edges are perfectly clean and sharp, and every stage in its manufacture can be readily traced, as there is not the smallest speck of rust upon it. The iron of which it is composed is of the very purest description, and so white and ductile that it was at first conjectured to be silver. This, however, has been ascertained to be owing to the presence of a somewhat large proportion of nickel,* which has most largely contributed to the exemption from oxidation. I am informed that iron of this character, with much nickel in it, is found on the surface of the ground in Wilts. The outside of the shoe is black, as all ironwork is when just from the hammer. The specimen weighs only $4\frac{1}{4}$ ounces, and is $4\frac{1}{4}$ inches long and $3\frac{7}{8}$ inches wide. The calkins are rolled over in the usual way. The immense oval depressions for the nail-heads are stamped nearly through the substance of the shoe, and have been made with a blunt tool when the iron was very hot. There is nothing to indicate that the shoe had ever been placed on the bick or beak-horn of an anvil to give it its shape. The *round holes* pierced for the passage of the nails appear to have been punched through when the iron was in a cold state, as the round holes in the horseshoes are made at the present day in Syria, Turkey, and the East generally. These apertures are only six in number, and there is no indication of attempts of raising a toe-clip. Both surfaces of the shoe are plain, and the workmanship is not of a very high order, but appears to have been executed in a hurried manner.'—(From Fleming's 'Horseshoes and Horse-shoeing,' p. 253.)"

In another letter to the *Oxford Journal*, and which appeared in August, under the heading of "Oxford and its Neighbourhood in Celtic Times," he writes:—

"In a letter which appeared in your issue of June 17 last I gave an account of the discovery, in the drainage works in Titmouse Lane, of several horseshoes, at fifteen feet below the surface, which are certainly of an early period, and, on grounds I stated, probably Celtic. Several persons, by whom they have

* An analytical chemist who examined it informed me that it was the rarer metal titanium.

been seen, object to the high antiquity assigned to them, and, from their proximity to the old Castle when found, hold that they were within the boundaries of the old moat—thus accounting for the depth at which they were found, and assigning them to a period not earlier than the Norman, or perhaps that of the siege of the Castle by King Stephen. Such at first were my opinions on the subject; but on consideration, apart from reasons assigned in my former letter, I believe there are fair grounds for the opinion that they are of a period long anterior to the Norman, and probably preceding that of the Roman invasion.

"No objection grounded on the long period since Celtic times can hold good on this question; as the conditions which have preserved these shoes in the earth without a spot of rust, during at least several centuries, would, if continued, have preserved them in like manner during centuries to come.

"Now it appears certain that these were not shoes of horses which had died on the spot, either from being killed in battle or drowned in the moat, or even thrown into it when dead,—as in such cases the shoe would have remained attached to the hoof; or, even if it had been possible that the hoof had completely decayed, the nails would still have been in the shoe; but of the whole of the ten or twelve which were found, only four had a nail in them, and these one only. Doubtless horseshoes in early times were far too valuable to throw away, and some of those found have only been worn in a very slight degree. They were not found together, as if lost in the water by accident, but were here and there—some in the lane, others beneath Messrs. Ward's coal wharf, and two, at about the same level, some feet below the bed of the river where the iron tunnel is laid beneath it. It can hardly be imagined that the Castle moat extended to this distance.

"The question, then, is, 'How are we to account for horseshoes being deposited as these were found?' One was in clay, and had at the time, and still has, a bright polish on the whole of the surface; it was fully imbedded, and it is difficult to conceive how this could have come about at a distance of several feet below the surface of water, as a horseshoe thrown into it

would sink to the bottom and rest on the clay, but not become imbedded in it. The other shoes, although equally free from rust, were more or less incrusted in hard concrete of coarse drift sand. My own opinion is that the shoes were cast (or lost) off horses' feet in this place, which (I believe) was the bed of a watercourse where in dry seasons horses went to drink, although probably in wet seasons it was a deep and rapid river. With such conditions we may understand how a horse treading on clay might leave a loose shoe imbedded in it; and how the other cast shoes, left in the shallow water, were lost to sight at the time, being afterwards covered over by the drift from a rapid stream in flood times, the gravel or sand becoming concreted by the deposit of lime from the Thames water. To fairly consider the existence of such conditions, we have only to imagine what would be the state of the country, even now, if the whole of the locks, mill-dams, railway obstructions, bridges, etc., were altogether away. The floods might at times be sudden and tremendous, the rivers furious torrents; while in dry and hot seasons the watercourses, except in the deepest parts, would be empty and dry. Such, doubtless, were the conditions in England in Celtic times, and from the whole of the circumstances under which these shoes were found, with the facts to which I referred in my former letter, I am decidedly of the opinion that they are of that period.

"Much could be advanced on the small size of these shoes, showing that they could not have been fit for war-horses of Norman or later times; and also on facts in proof of the diminutive size of those of early British times. Those points, however, I will pass over, as my object in this letter is not so much to prove the great antiquity of the shoes in question, as to direct attention to the state in which the outskirts of Oxford have been in past times, and to suggest that a record should be kept of objects which have been found, and the nature or conditions of any remarkable character in the earth through which the drainage excavations have been made. Such a record would not only be interesting from an antiquarian point of view, but might be valuable as regards future works which may have to be carried out; and, doubtless, if on this ground only, the Local

Board would aid in getting up such a record, if provisions have not already been made for the purpose.

"In carrying the culvert under the Canal, within about a hundred yards from where some of the shoes were found, and about at the same level, the excavation was through a bed, several feet in thickness, of black bog earth or decomposed vegetable matter, which extended under the Hythe Bridge road, and onward under Worcester College garden. This deposit must have been the accumulation of ages; it shows the level at which water has at times been in these parts; and a record of its depth, thickness, and extent, as far as shown in the drainage works, would be interesting, might be useful, and, I presume, could be indicated on a map of the works with but little trouble or expense."

FIG. 5.

Such is the history of the shoes now offered for your inspection, and there can be no doubt whatever as to their high antiquity. I am extremely gratified at becoming possessed of them, as it gives me an opportunity of adding to the historical series of horseshoes I have already been permitted to present to the Museum of the Royal College of Veterinary Surgeons; and the value of the addition may be inferred from the fact that, of the large number of horseshoes generously sent for my examination from all parts of the Continent and this country, while preparing my history of horse-shoeing, I could not procure even one for

our Museum—those of this type being deemed far too valuable by their possessors to give away—though I contrived to get casts of some of them, and these are sufficiently marked for reference purposes.

I have now to direct your attention to an example of what have been termed "hipposandals," which, like many of the shoes, have been constantly found with Roman remains. They vary extremely in shape, and have given rise to much discussion among antiquaries and foreign veterinary surgeons as to what they may have been intended for. The one now exhibited (fig. 5) was found at Springhead, near Gravesend, at a place which appears to have been at first an ancient British, and afterwards a station on the great Watling Street of the wonderful colonists of Britain—the Romans. This hipposandal was found with many Roman relics; and it is not improbable it may have been used as a temporary protection to the foot of a horse, or for some other equine purpose to which Latin literature makes no reference. This, also, I have had unfeigned pleasure in presenting to our professional museum, as it is a rare example, and is in excellent preservation. There is only one other, to my knowledge, in this country, and that is in the British Museum; but it is a French specimen.

CYST IN THE LUNG AND FISTULOUS COMMUNICATION WITH THE STOMACH.

BY JOHN GERRARD, M.R.C.V.S., MARKET DEEPING.

THE morbid specimen I forwarded to you a few days ago, was the left lung and part of the trachea of a three-year-old bullock. He had been doing badly for some twelve months previous to my seeing him, but nothing to indicate a diseased condition or necessitate treatment. About that time I had dressed him for what is known here, and in the fen districts, as *Wens*,—tumours about the parotid and submaxillary regions, regarded by many as of a scrofulous nature. Although they bear some resemblances to the scrofulous tumour, I cannot think they are wholly so, as

they are only found in the fen districts, on peaty soil, and when any cattle suffering from them in an incipient state are removed to the higher grounds of the district, they gradually disappear without any surgical interference. The cattle from the grazing county of Leicestershire are very apt to be affected with them when brought into the fens for the winter, and generally recover from them when taken back in the summer, if the tumours are not too far advanced. Popular ideas attribute the cause of them to the water, containing, as it usually does, a large percentage of lime in the form of sulphate, as you will see from the enclosed analysis by Professor Voelcker of a sample of the fen water, which we imagined was the cause of periodic outbreaks of Splenic Apoplexy in a large herd of bullocks for four years in succession, and about the same time each season.

I digress, however, but shall like your opinion on this point at some future time. The bullock had been reared on the farm from which this sample of water was sent, and, as before stated, had been dressed for these tumours, which had nearly all disappeared. About a week previous to my being called in, he had fallen off in his appetite, and the owner had administered some aperient drinks and oil; but he got worse, entirely refused to eat, and was moved about with very great difficulty, breathing hard, and grunting badly.

Auscultation revealed the presence of a cavity in the lung, the sounds being those of a *whiff* and *gurgle* in one particular part: the other parts were characterised by dulness. The right lung had the normal sound slightly increased. From the fact that he had been dressed for wens some twelve months previous, and had done badly since, I considered it a case of Vomica, resulting from liquefaction and absorption of the substance of some of these tumours in the lung tissue, where they are sometimes found, with ulceration into some of the bronchi.

Treatment being out of the question, I ordered him to be destroyed, and the lungs preserved for my inspection. He was slaughtered next day, and as it was at a good distance from home, I did not see the carcase nor any of the viscera until a few days after; indeed, I did not see any part of him except the lungs, which were reserved for my inspection.

The right lung was perfectly healthy, also the mucous membrane of the trachea; but on cutting into the left lung, I was surprised to find the cyst, which I expected to see full of pus, filled with ingesta from the stomach. As I was much pressed for time, and thinking it rather an unusual condition of the lung, I took the liberty of forwarding it for your inspection, and, if you deem it of sufficient interest, for publication in the *Journal.*

I regret very much I was not present at the autopsy, and could only learn a few particulars from the butcher.

The left lung was adhering to the ribs, and there was a quantity of matter (pus) in the chest, close to the *skirt* or diaphragm. He did not perceive any hole through it, nor in any of the stomachs; but, on cutting up the *reed*, or fourth stomach, a number of nails and stones dropped out, which excited his curiosity, and he retained them.

I found one of the nails about three and a half inches long, and bent at the point at an obtuse angle, as if it had at some time been clenched on a piece of wood. The others were not quite so long, but were all worn quite bright. The stones were rounded like those found upon the sea-shore—evidently the result of friction upon each other from the action of the stomach.

The heart (he said) looked healthy, and was sold in the usual course of business, but the carcase fetched little in London. He was not quite sure if there was not some matter (pus) about the liver, but some parts of it were sold.

From the appearance of the lung I sent you, and the fact of these nails being found in the stomach, there can be little doubt but that the cyst had been caused by the irritation and inflammation of the nail passing through the walls of the stomach (probably the *omasum*), the substance of the diaphragm, and into the lung tissue, thus establishing a fistulous communication between them, and which allowed the passage of ingesta into the cyst. I did not take out the contents of the cyst, but from their finely comminuted appearance, I think they must have undergone the action of the manifolds.

On this I shall not speculate, but shall be glad to have your opinion and comments.

PROFESSOR VOELCKER'S REPORT ON THE WATER.

The water on evaporation left :—

	Per Imperial Gallon.	
Dry residue (dried at 130° C.)	218·26	grains.
In this residue I found by direct determinations:—		
Oxydisable organic matter	2·68	„
Phosphoric acid	·17	„
Oxide of iron and alumina	·95	„
Lime	39·82	„
Magnesia	15·49	„
Sulphuric acid	82·34	„
Nitric acid	10·52	„
Chlorine	27·52	„
Soluble silica	1·82	„
Alkalies and carbonic acid—not determined separately.		
The water further contains in the gallon :—		
Actual (saline) ammonia	·126	„
Organic (albuminoid) ammonia	·129	„

According to those analytical data, the composition of the water may be represented as follows :—

An imperial gallon contains :—

Oxydisable organic matter	2·68	„
Oxide of iron and alumina	·95	„
Phosphoric acid	·17	„
Sulphate of lime	96·71	„
Sulphate of magnesia	34·83	„
Nitrate of magnesia	13·93	„
Sulphate of soda	3·96	„
Chloride of sodium	45·35	„
Alkaline carbonates	17·86	„
Soluble silica	1·82	„
Total solid constituents per gallon	218·26	„
Actual (saline) ammonia	·126	„
Organic (albuminoid) ammonia	·129	„

The water was coloured slightly yellow, and on evaporation to a small bulk turned distinctly yellow and left a brownish-coloured residue, which on exposure to a strong heat in a platinum dish gave off disagreeable smelling fumes and became dark—showing that the water contains a considerable proportion of organic matter.

The amount of organic matter in this water is large and evidently of animal origin, as it contains both organic ammonia and nitrates, which are products of the decomposition of animal refuse matter.

The total amount of solid constituents in the water is abnormally large, as

ordinary wholesome drinking water seldom contains more than thirty grains of solid matter in the imperial gallon.

The water is largely impregnated with saline impurities, and contaminated likewise with much animal organic matter, and appears to be rendered foul by drainage from a yard or cesspool, or similar objectionable fluids, and, in my opinion, is decidedly unwholesome and quite unfit to be given to cattle.

I have no doubt such water will seriously affect the health of animals and would advise at once to stop the supply.

Unfortunately, there are no means of rendering the water pure and fit for drinking purposes. All that you can do is to look to your drains, and to make sure that no drainage products can by any chance find their way into the well which supplies the water; and if you cannot remedy in this way the defects of the water, there remains nothing but to abandon the use of the well.

[The cavity in the lung referred to by Mr. Gerrard was oval-shaped, about the size of a small cocoanut, and contained nearly twelve ounces of well masticated food.

The wall of the sac consisted of a dense fibrous membrane, continuous with the mucous membrane of some bronchial tubes which opened into it, and through which portions of the contents might have been expelled—in fact, some of these were filled with the ingesta for three or four inches.

The canal leading into this sac was about the calibre of a pencil, and lined by a continuation of the fibrous membrane already mentioned.

A small portion of the diaphragm was adherent to the lung around this orifice, but no trace of the stomach could be found.

In parts of the same lung, but at some distance from the cyst, there was a considerable number of small scrofulous deposits.]

A MONOSOMIAN MONSTROSITY.

BY W. SHIPLEY, M.R.C.V.S., YARMOUTH.

[Mr. Shipley having kindly favoured us with a photograph of a Monosomian Monstrosity, we requested to be furnished with information as to the history of the case: whether any difficulty was encountered in delivery, and if so, how it was overcome. This we did from the interest that always attaches to these cases, and particularly in an obstetrical point of view.]

THE double-headed, or rather semi-double-headed, calf I extracted from a cow some time ago, under the following circumstances:—

First of all, the cow was a medium-sized animal, and, as far as I can remember, about four or five years of age. She had shown signs of parturition the evening before I was called in, and on the following morning a man living in the neighbourhood, and practising as a cow-leech, or *veterinary surgeon*, was sent for, and tried his utmost for some hours to remove the calf. Being unsuccessful, I was sent for during the afternoon.

On examining the animal, I found the genital parts much swollen and dry, from the severe treatment she had been subjected to. With some difficulty the fore-legs of a calf, and a malformed head, or what turned out to be a head with two noses—*i.e.*, a semi-double head, were discovered. I also found the lower jaw of each smashed, and the incisors pulled out or hanging from the gums; this damage had been inflicted by the means employed to extract the calf. Efforts had also been made to amputate the head, but, as one might suppose, unsuccessfully, as its size would prevent the use of any kind of knife at the back of it; and I could not see what benefit would have resulted, even if it had been practicable. With some trouble and much labour, I returned the fore-feet as far as possible into the uterus, and passed a strong cord over the top of the head to the back of the ears; then, by the aid of some men pulling this cord, and by manipulating the two noses of the calf first to one side of the pelvis and then to the other, gradually drawing each forward, the head was ultimately extracted, and removed at its junction with the atlas. The remainder of the operation was easy work. I pushed the neck of the calf back, raised the fore-feet, and, with a little assistance, removed the body of a finely-developed calf. The calf was alive in the morning, and I believe if proper means had been resorted to at that time it could have been removed much easier, as its jaws were then entire, and by fixing a cord on each and passing one over the head, before swelling of the vagina had taken place, and when the canal was lubricated by the natural secretions, it would certainly have been extracted with much less force. Had I

been in possession of any instrument by means of which I could have fractured the bones of the skull, I could have more easily effected it sdelivery; but I had nothing of the kind, and I can only congratulate myself for not having done so by being able subsequently to have a good photograph taken of what I considered a singular *lusus naturæ.*

FIG. 6.

I may add that the calf had only one body and one spinal cord, and the cerebrum on each side was fairly developed, but the cerebellum was only semi-double; the creature had two nearly perfect tongues.

I have the bones of the heads roughly put together now in my possession. The cow from which I extracted the calf died; but I am thankful to say I had no *Mr. Prout* to deal with, or perhaps it might have been *Paradise Lost* with me.

A CASE OF CONGENITAL HAIRY TUMOUR ON THE SCLEROTICA AND CORNEA OF THE OX'S EYE.

BY W. ROBERTSON, F.R.C.V.S., KELSO.

CASES of tumours of this class are probably not of frequent occurrence, and certainly they have been very rarely recorded. Even in human surgery, where the slightest abnormal condition

is so quickly observed and frequently noted, the number of recorded cases of such growths is small. Professor Gräfe, of Berlin, in the fourth volume of the *Journal der Chirurgie und Augenheilkunde*, 1822, is probably the first to record the existence of such growths, in the description of a congenital tumour, which he calls "trechosis bulbi," situated on the margin of the cornea, from which hairs grew.

Mr. Wharton Jones, in his "Ophthalmic Medicine and Surgery," figures and describes an instance of this tumour, which he considers analogous to those of the skin called moles.

Mr. Edwards, in the *Edinburgh Veterinary Review*, 1859, after referring to these and some other recorded cases, gives a description and sketch of a very interesting case where such tumours were present in both eyes of the same patient, as also an account of their successful removal.

The case to which I would now draw attention exists in a short-horned bull-calf, six months old—in every other respect perfect, well-formed, and healthy. The abnormal condition was observed by the owner shortly after birth. The condition of the eye I have carefully examined, having been requested to visit the animal and advise regarding the course to be adopted with "a calf supposed to have a *double under-eyelid*." The most cursory examination of the eye reveals the presence of a considerable number of hairs, similar in appearance to those of the eyelashes, springing from the cornea and sclerotic, and projecting between the eyelids,—or rather, I should say, as they are kept constantly wet with tears, hanging over the margin of the lower one. More carefully looked at, it is evident that these hairs are implanted in what looks exceedingly like a *mole*—a portion of tissue of a dark-brown colour, which, judging from the examination made of a portion removed, is really and truly skin. This new or abnormal tissue is slightly elevated above the level of the sclerotica and cornea upon which it is placed; the latter, being less encroached upon, is nearly circular in outline, about three-eighths of an inch in diameter, and covered with conjunctiva.

The only disturbance which this tumour seems to cause is an abundant flow of tears.

ANEURISM OF ONE OF THE ANASTOMOSING ARTERIAL ARCHES SUPPLYING THE SMALL INTESTINES.

BY G. A. ROLLS, M.R.C.V.S., ARUNDEL.

I WAS requested on September 13, 1876, to attend an aged cart-horse, supposed to be suffering from an attack of Colic. Being from home when the messenger arrived, I did not see the animal for some hours. I then found him suffering from slight abdominal pain, shown by wandering aimlessly about, twisting the tail, occasional pawing or scraping with the fore-feet, and placing himself in position as if about to lie down, which, however, I did not see him do. The beats of the pulse were just perceptible, but far too feeble and irregular to count; the ears were cold, and the buccal membrane and conjunctiva pallid.

The prognosis given was, of course, "approaching death." Diagnosis, uncertain. The animal had been turned out to graze the previous night, and was found unwell on being taken up to do some work in the morning. One of the farm men said he had seen him in rather a peculiar position and down, the evening before. There was no Tympanitis, and the fæces, on a rectal examination, were found to be in good medium condition. There were no bruises or dirt marks on the body, which one would have expected to find on an animal that had been suffering very violent abdominal pain. I suggested that probably we should find, as the cause of death, congestion and mortification of a limited portion of bowel. The horse died during the night, and was opened early in the morning.

Post-mortem.—On laying open the abdomen, a large quantity of thin bloody fluid escaped. There was a large quantity of clotted blood lying loose among the intestines, and a large adherent blood-clot, about the size of a man's head, situated on the upper or attached side of the small intestine, and kept in position by the mesentery. The artery was enlarged and thickened for some eight inches before touching the blood-clot, and the bowel was thickened and congested for about fourteen inches in length. A distinct line of demarcation existed between the healthy and diseased portions, due to the greater thickness

of the latter. There was extensive Peritonitis, but not strongly marked; it was evidently very recent, and due, doubtless, to the effused blood.

I am sorry to say that I could not investigate the point of rupture, as the specimen was left for the owner's examination.

PUNCTURE OF THE INTESTINE IN FLATULENT COLIC.

BY ALEXANDER HARTHILL, V.S., LOUISVILLE, KENTUCKY (GRADUATE OF THE ONTARIO VETERINARY COLLEGE, TORONTO, CANADA).

THE frequent occurrence in this locality, during the summer months, of severe cases of Flatulent Colic, often terminating fatally, though receiving every attention and the most approved modern treatment, induced me, after some hesitation, to attempt to save other cases by using the trocar and canula. The success I have met with during the past four years has demonstrated that what has been considered a dangerous operation, and attended with doubtful, and even fatal, terminations, can be performed with great ease, and also with the most satisfactory results. It has fully established the fact that this simple and comparatively harmless operation on the horse is one of much importance to the profession, affording, as it does, relief in urgent cases, and when all other means have failed.

Although puncturing the rumen of the cow in Tympanitis has long been practised, and is followed by immediate relief, while it is considered harmless, it appears that puncturing the intestine of the horse in this common disease has been very seldom performed. Probably the knowledge of the anatomical difference of the organs, the higher organisation and more delicate nature of the structures perforated, and the fatality attending Peritonitis from abdominal wounds, have all occurred to the memory of practitioners, and caused them to deem it too dangerous, if not fatal, to attempt.

The kind of Colic most prevalent in this section of country is

flatulent, arising from the food given, and the great heat of the summer months. Indian corn—a staple product of the country—is used largely in its whole state. It is a rich food, slow of digestion, and generates a large amount of flatus. Horses and mules that are worked hard and exposed to the heat, or horses that have been standing idle a few days in the stable, and then driven, are most liable to suffer. Feeding on new corn in the fall (October and November) also produces very dangerous cases. Putting to work soon after a full supply of corn, or watering and feeding too freely when exhausted, all tend to cause great derangement of the digestive organs. Mules compose the larger portion of the work stock here; and an extreme case of Flatulent Colic, which at one time was one of the few diseases that caused the death of this hardy animal, is seldom, if ever, attended by fatal results in my practice now. In this class of cases, before I began to puncture, the *post-mortems* revealed the causes and the lesions producing death, as well as the location of the organs subject to the gaseous distention: or, in other words, the presence of quantities of undigested corn, rupture of the large intestines, the cæcum and colon, and occasionally the stomach and diaphragm,—the walls giving way from gaseous pressure, generated by the fermenting mass.

As far as I have been able to ascertain, from consulting a number of writers, this important subject has received but little attention in veterinary literature. Percivall suggests the operation, and states that the French are said to have performed it. He also mentions a case operated on by a Mr. Stuart, V.S., but with apparently doubtful result. Mayhew advises it as a last resort, or when death is threatened calls it a desperate remedy, and advises that the *left* side be punctured. He also states that it has been performed both in Great Britain and foreign countries, though it is by no means a certain success or a certain failure, but yet more speedy in its effects than the great majority of medicinal remedies. Dadd mentions it under the heading "Meteoriation," and quotes a successful puncture of the cæcum, translated from the "Rec. de Med. Vet." (French). It was an extreme case; three or four hours were passed in suffering, and medicines afforded no relief. It was punctured twice, large

quantities of gas were liberated, and relief followed at once; the next morning the animal was bright and lively, eating freely, and bowels acting regularly.

The *Edinburgh Veterinary Review* for 1859 states, in its extracts from the Continent, that M. J. Aubrey, V.S., had performed it in four cases—three of them proved successful, the fourth obtained temporary relief, but died on the sixth day. The colon was found obstructed by a hard fæcal mass, and nothing passed whatever.

Professor Williams, in his valuable addition to our literature, mentions the subject briefly, and says the French practise it, and advise that it be done early. It has not, however, found favour in Great Britain. He had performed it twice himself, on cases that were greatly exhausted. Some relief followed, and life was prolonged, *but both died.*

Considering the eminent authorities quoted, their difference in opinion, and the somewhat doubtful results to be looked for when adopting the remedy in question, I confess it was with some misgivings on my part that I had much hope of succeeding, where men so distinguished in our profession had failed to discover its great value; and only as a last resource was I tempted to make the experiment, when I believed to a certainty my patient would die on my hands in any event, and hence I took the risk, with, to myself and the owner, the most gratifying success. That case I will here describe, as, being my first one, it may prove all the more interesting. The patient was a brown horse-mule, one of a team from the country, which had been given the usual feed of corn and hay the night before, the same in the morning, and then started with a load for the city. He was taken sick about eight a.m. on the outskirts of the city, and after great suffering for five hours, and receiving as many drenches, he was brought to me apparently nearer dead than alive. The abdomen, to use the negro teamster's expression, "was as big as a hogshead," the respirations were short and difficult, extremities and body surfaces cold. Staggering from weakness, membranes dark-coloured, pulse very weak, mouth clammy, pasty and offensive, eyes sunken—the facial expression and whole appearance showing he had undergone great suffering, and was in a critical condition.

In fact, with the exception of the great abdominal distension, he presented the appearance of a case of Enteritis nearing a fatal termination. I felt there was no time to lose, as suffocation or rupture of the intestine might happen at any moment, and decided to try puncturing. We led him into the stocks, put the side bar in, and an assistant stood at the head. I cut through the skin at the upper part of the *right* flank, with the setoning scissors, as the skin in mules is thick and tough. A sharp push sent the trocar and canula through the muscular wall into the intestine. He barely moved while this was being done. The withdrawal of the trocar was followed by a rush of most offensive smelling gas, which continued while the abdomen gradually lessened to near the normal size. The mule stood quiet, and when the gas ceased escaping he gave a deep sigh, expressive of relief. He was turned into a loose-box, and stood very quiet and stupid-looking for some hours, being quite cold all over Gradually, however, warmth returned, and late that night he appeared brighter, and drank a little gruel. I had given him a five-drachm bolus early, but twenty-four hours elapsed before any fæces passed, and they were dark-coloured, slimy, and offensive, and contained much undigested corn. The mule's appetite and strength increased daily, and in five or six days he went home. Has been sound since, and works hard. This was an extreme case, but however satisfactory, it was not enough. Pleased, however, at the result in this case, I tried it again and again; and when I say that the same good results have followed ten or twelve times every season during the past four years, I think this conclusively proves the permanent success and great value of the operation on the horse as beyond all question.

Regarding other cases which have passed through my hands, I may say that I have punctured patients from three to twenty years of age, some in a recumbent position, though generally standing in the stocks. If any further proof is necessary as to the efficiency and safety with which this operation can be performed, I may say that, in prolonged cases, I have punctured the same animal as many as four to six times within twelve hours, and they made good recoveries. In all my cases, with only two exceptions, the wounds healed by the first intention. In the cases

punctured so often, the only noticeable feature was that the parts were a little swollen, hot, and tender to the touch for a few days. The large majority of patients needed but one or two punctures, and so little of the wounds was to be seen a few days after, that they were generally not observed. The exceptions to the rapid healing process noted above were, first, a mule, in which an abscess formed between the layers of the muscles. That I laid open, and it healed rapidly. The second was a delicate mare, in which case a deep-seated abscess formed, and opened externally at the only puncture made. It assumed a fistulous tendency, the pus burrowed downwards some distance, and it became necessary to make an incision eight to ten inches long and quite deep. However, it healed, and she made a complete recovery.

Nearly all of this class of cases I had brought to my infirmary, and turned into my colic-stall, twenty-four feet by sixteen, well bedded with sawdust. This ensured privacy, and the advantage of having remedies and assistance at hand. In slight or ordinary cases, I gave the usual remedies; but when a case came that had been suffering for one or more hours, the abdomen greatly distended, and urgent symptoms present, I decided on puncturing, and had the animal led into the stocks. I placed the side and breast bars in position, applied the twitch, and selected the most prominent point of the distension at the upper part of the *right* flank. I made an incision from an eighth to a quarter of an inch long with the setoning scissors, or a small-bladed penknife. A sharp push sent the trocar and canula through the muscular wall into the intestine, when gas followed the withdrawal of the trocar. In cases where the escape ceased suddenly, I passed the trocar in again, to clear away ingesta that had been drawn into the canula by the rush of gas which occasionally happens. The pain felt on cutting the skin always appeared to be more noticed by the animal than the rest of the operation. Complete relief followed in most cases: in fact, a state of great suffering and danger was changed to one of ease and safety. Now and then a case, after being relieved of a large quantity of gas, became perfectly quiet for two or three hours; but owing to the fermentation continuing, the distension returned with urgent

symptoms, a second puncture was made, more gas escaped, and permanent relief followed.

After puncturing, I advise some days' rest and light feeding; although, extraordinary as it may appear, I know of two instances when the animals, contrary to my wishes, were put to work the next day, and no bad results followed.

The instrument I use is from three and a half to four and a half inches long, and an eighth of an inch in diameter, spear and trifacial pointed, and the cutting surfaces made longer than usual, as I find they cut much easier. I am particular to have them in good order to ensure a quick, clean puncture. As before stated, I have on several occasions performed it while the patient was in a recumbent position, with an assistant holding the head down firmly; and it answered very well, as no resistance was made. With others, however, it was not practicable, as they struggled and attempted to rise, and the object is thus very apt to be frustrated. Judging from my experience, I feel confident that almost any extreme case can be saved, provided rupture has not taken place. That no bad effects follow to the peritoneum or bowel, I feel satisfied; for the reason that the incision made is small, and done at a time when the intestine is greatly inflated, sometimes to its utmost limit; so that when it collapses or resumes its normal size, the edges of the wound coming into close contact with each other, doubtless unite at once. Any irritation caused is slight, and the small wound made in the coats of the intestine heals quickly.

Although I have punctured patients on both flanks, I am decidedly in favour of selecting the *right side*, having found it the best for reaching the intestine containing the bulk of the gas; so much so, indeed, that I now seldom attempt it on the left side.

From what I have related of my experience in connection with this subject, practitioners who may decide to follow my example will have less fear of doing so than they possibly have had heretofore, and have only to be guided by the character of the case in hand, and the duration and severity of the attack, to render such an operation a complete success.

VETERINARY OBSTETRICY.

BY W. A. COX, M.R.C.V.S., ARDWICK, MANCHESTER.

(*Continued from p.* 106.)

Peculiarities in Presentation, due to some Morbid Alterations in the Dam.

Rupture of the walls of the Uterus, and presence of the Fœtus in the abdomen amongst the intestines.—These cases are rare, and I have only two on record. *Post-mortem* examinations proved that the inferior wall of the uterus had given way,—been ruptured,—some length of time previous to the exhibition of parturient signs; pains there were none, truly speaking; the mammary glands were filled, the vulva enlarged, and the lining membrane injected, and the animals were "off at hips" and uneasy. In both cases, examination showed that the fœtus lay abnormally low; when the hand had passed through the cervix uteri, there was a precipitate fall of more than the length of the hand before the fœtus could be touched, and the head and extremities could be scarcely grasped when the arm was introduced to the full extent. The abdominal parietes could be plainly felt. In both cases the fœtus was straight, the only difficulty being in getting the head and feet through the cervix without catching at the folds, as it was drawn through the ruptured orifice. In one instance this was avoided; in the other, although great care was taken, the uterus was torn afresh and the animal succumbed from hæmorrhage. Whether this was caused by drawing the fœtus through the opening, or by the contractions of the uterus, I could not decide. In the other case, death did not take place until the fourth day after delivery, and was due to Peritonitis, caused by the free presence of the fœtal fluids in the abdominal cavity. In both cases, the placenta came with the calf. I have never seen these cases in any animals except cattle.

Præ-placental presentation.—This is also rare, and if seen at the full period of gestation, may be considered as an unfavourable appearance; it is most frequent in cases of abortion, and at that period is seldom attended with unfavourable results. These cases

occur when the full period of pregnancy has passed, and the "water-bladder" has been presented and ruptured; and the *entire* placental mass follows it, and is prior to the fœtus. In some cases a considerable portion of the membranes envelop the fore parts of the fœtus, and occasionally to such an extent as to retard delivery. These may be shredded off, and removed without risk; but in such cases the posterior part will be found attached.

The fatality attendant upon these cases is owing to neglect of examination and proper aid, and this negligence is due to the absence of "pains."

After the removal of the fœtus, it is found that hæmorrhage has taken place from the open vessels, and the quantity indicates that it commenced immediately after the separation of the placenta. I have seen these cases only in cattle.

This must not be confounded with the *active* hæmorrhage, or "flooding," that follows the act of parturition, and an interesting case of which I have on record. It was a cow belonging to Mr. Booth, of Buckholme. I had delivered her—a simple presentation—without difficulty; the placenta had followed, and I had left the shippon to wash and dress, when the attendant left in charge hurriedly informed us that she was parting with great quantities of blood. This proved to be the case; it was discharged in volume equal to an ordinary pump spout. It was an urgent case. I soaked four or five double towels and a sheet in cold water, and passed them through the vagina into the uterus, and then blocked that passage up with similar materials. From fifty to sixty cans of cold water were thrown on to her, and a double cloth over her loins was kept constantly wet. Two doses of opii and acetate of lead were given, with alternate doses of opening medicine. On the third day the cloths were eased by twisting them, and on the day following they were expelled. The animal recovered, and was in usual milk in ten or twelve days.

"Flooding" in the mare is occasionally seen. Mr. Frost, of Lintwood, sent for me in haste. His mare had foaled, and she was losing great quantities of blood. I found her so weak that she staggered. In several places where she had stood for a

short time were clots of blood the size of a man's head, besides much fluid blood that had been evacuated, and had sunk into the ground. I douched her with a great volume of cold water, and adopted the treatment before mentioned. I did not introduce cloths into the vagina. The mare recovered. This is a digression, but these are cases of interest.

Schirrous Os Uteri is seen in cattle and sheep, oftenest in the former; never in the mare. It is owing to a peculiar diathesis, or injury at impregnation, or is the result of aggravated or protracted Gonorrhœa.

It is conversion of the membranous elastic ring into firm tense cartilage, incapable of the least extension. Sometimes the opening is so constricted as to admit only of one finger; but it is rare that the hand can be passed. If on examination there is the slightest dilatation, the probability is that by repeated efforts and allowance of time, the fœtus may be extracted. If the diameter does not increase, there should be no delay in operating. The method consists in the division of the hard ring, superiorly and laterally, by two incisions. Before operating it is advisable to warn the owner of the great risk, as the "pains" of the dam, or the passage of the fœtus, will sometimes extend the incisions far into the body of the uterus and tear across or open large vessels, and death follows.

The "thimble" knife, or a probe-pointed bistoury, may be used in operating.

If the fœtus is dead and decomposed and the pains have subsided, and no portion is advanced through the os, it has occasionally been left to nature, and the animal has been fed off; and when slaughtered, the fœtus has been seen dried up and smaller, enveloped in its membranes, the chorion having the character of leather. Or if the membranes have been ruptured, the softer tissues will have been discharged, and the bones only have been found.

After the operation the fœtus may be placed *in situ*, and the expulsion left to the dam. There will be less risk of too great extension of the incisions. If no progress is made, assistance may be given; but the traction should be moderate, and simultaneous with the pains.

Small Calibre of the Os uteri is occasionally found. Manipulation will considerably increase its diameter, but the hand and arm should be anointed with lard. The head and feet should be corded separately, and carefully brought into the vagina. If the fœtus is large, the four extremities should be removed. Sometimes the fœtus "blocks" in the os, and this is drawn back until it can be seen. In such instance, it must be worked back with the fingers, inserting lard between it and the fœtus, and giving the latter a twist as it is drawn.

(*To be continued.*)

FRACTURE OF THE ACETABULUM.

BY J. W. HILL, M.R.C.V.S., WOLVERHAMPTON.

ON the 10th of this month (January) I examined, on behalf of the Patent Shaft and Axletree Company, an aged brown mare as to lameness. Until two days previous she had been sound, when, on the day in question, she became, whilst at work, suddenly lame in the near hind limb. I diagnosed it as a fracture of one of the trochanters at the head of the femur, or the acetabulum; and, as she was a very old animal, and the case likely to be tedious as well as unsatisfactory, it was arranged she should be destroyed, which was done the same afternoon.

A *post-mortem* examination revealed a fracture, with separation at the lower edge of the rim of the acetabulum, the broken portion being an inch long and split off obliquely.

The gait of the animal was peculiarly significant of some displacement in the hip region: the limb turned inwards, similar to knocked knees, and the power of rotation seemed utterly lost. The muscles on that quarter had a flat, sunken appearance, and, on manipulation, could be passed easily backwards and forwards over the ridge on the outside of the femur, almost giving the idea that the tuberosity itself was loose.

A FEW REMARKS RELATIVE TO "BURSAUTTIE."

BY STEPHEN KNOTT, M.R.C.V.S., ROYAL ARTILLERY.

HAVING read "Max's" papers on "Bursauttie" in the *Veterinary Journal* for November, and as that gentleman asked for the experience of other members of the profession on the subject, I beg to submit a brief statement of my views, founded on the practice which I had during my service in India and Burmah.

The question is asked, "What is Bursauttie?" Those who have served in India know that it is a sore which makes its appearance in the rainy season, and shows itself on different parts of the body. I am of opinion that Bursauttie is a spreading sore, of a climatic and phagedenic character. It assumes the appearance of a dark-coloured, granulating, spreading ulcer, varying in size—the largest, as a rule, showing itself in front of the fetlock joints and on the outside of the hock, near the seat of Thoroughpin. In front of the fetlock joint it has a raw, convex, granulating, carbuncular appearance.

The parts attacked are generally the extremity of the prepuce, the side of the cheeks, sometimes both above and below the zygomatic ridge, under the lower eyelid, and, as I have already stated, in front of the fetlock joints, etc.

I have frequently noticed that any little abrasion during a monsoon has a tendency to run into Bursauttie, especially where caused by heel rope and foot shackle. The question is, however, "How do they become true Bursauttie sores?" The damp and wet of a rainy season is undoubtedly an exciting cause—added to which, flies carry the virus from those suffering with the disease to healthy horses who may have slight abrasions on them. On many occasions I have seen Bursauttie sores studded with flies, as thick as they could be, and which, when disturbed, would fly away and deposit themselves on other horses, and so, without doubt, assisted materially in the spread of the disease.

I thoroughly agree with "Max" in the supposition that flies do carry poison to wounds and abrasions, by depositing fæcal and decomposing matters from latrines and other sources. When this happens, and particularly when the wounds are influenced by a moist temperature, I am of opinion that Bursauttie is the result.

During stable hour in the Troop Lines, while horses have been feeding with nosebags on, flies would deposit themselves in great numbers round the lower eyelids and sides of cheeks—after which, on the removal of the nosebag, they would go around the lips and angles of the mouth, possibly brought there by the smell and sweet taste of the boiled "cooltie." This probably accounts for the sores on those parts. Then, again, as to the sores on the penis: horses, if kept ever so clean about that part, are always liable to a secretion under the prepuce, which would naturally spread over the glans penis and about the sheath. Referring to the pasterns and fetlock joints, the dirt and accumulation of dried urine and slight particles of dung would be very enticing to flies; and if there were any wounds about those parts, they would naturally go and alight upon them. Moreover, should the flies have previously been upon fæcal and decomposing matter, it is but right to infer they would poison a wound, and cause an unhealthy sore, by conveying morbid matter to it.

As to Treatment.—The first thing to be done is to protect the parts affected from flies, as there is extreme itching and irritability of the sores. At times the cloth which is generally tied round them may be dispensed with. As regards local applications, carbolic acid lotion is very serviceable, and stops the itching; chloride of zinc, gr. vj. to the ounce of water, is another good remedy, and brings about a healthy state of the diseased surface. At other times, when granulating too much, the application of nitrate of silver or sulphate of copper, or a lotion made of sulphate of copper or zinc, is very useful.

Another very good agent is a solution of aloes, with a quantity of alum added, sufficient to make it a strong astringent lotion; the aloes will keep away flies and act as a desiccant. I have known Ung. Iodidi, made with 3j to 3viij of lard, do a great deal of good when applied with pressure, especially over the sores on the fetlock joints. Again, there is the application of the actual cautery; after which poultice, and when the wounds are looking healthy, the common digestive ointment, with alum added to it, will often heal them up.

I have met with chronic cases which continued all the year

round, and which, when the rainy season had passed, improved but very little. Milder cases, however, get well when the rains cease, but usually re-appear during the next monsoon.

Constitutional Treatment.—Occasional doses of physic, combined with a little calomel, varied at times with other alteratives, such as iodide of potash and tonics, and strict attention to diet.

THE ŒSTRAL OR MENSTRUAL DISCHARGE IN THE LOWER ANIMALS.

BY A. E. MACGILLIVRAY, V.S., BANFF., N.B.

It appears that my communication in the *Veterinary Journal* for December, 1876, as to a case of Impervious Vagina which occurred in my practice, has attracted some little notice among my professional brethren, and has been the cause of the successful treatment of an analogous case in the practice of Mr. R. West, of Redhill (see *Journal* for last month).

Mr. Gerrard, of Market Deeping, however, in an article also in the February *Journal*, seems to think I ought to have styled my case "*Amenorrhœa*"; and then goes on to say that, as there is no œstral or menstrual discharge in bovines, there can be no Amenorrhœa, and that, consequently, I had no case at all; or, to use his own words, my own details "make the condition described an impossibility."

With all due deference to Mr. Gerrard's great and well-known theoretical abilities, I must be allowed to say that actual experience, and what one has seen, must be accepted as true, and in preference to a few cursory remarks about "injured vagina and consequent adhesions," "dropsy of the uterus of a sero- or muco-purulent description," "hæmatoma," "pelvic cellulitis," etc. I beg most emphatically to state that my case of "impervious vagina" had nothing in common with either of these, and that, therefore, the conclusions drawn by Mr. Gerrard are quite foreign to the point in question. My case was simply one of congenital malformation—an entirely impervious vagina; and the sero-sanguineous fluid mentioned by me was the *result* of the retention, in the isolated uterus, of the usual œstral products.

This brings me to the grand point of contention—namely, Is there in equines, bovines, ovines, etc., anything at all analogous to the menstrual discharge in woman?

After what has been recently written on this subject by such authorities as Saint-Cyr and Fleming, who both maintain the existence of a sanguinolent œstral discharge in the lower animals (resembling the catamenia of woman), I should have considered it impossible for any one with opportunity for practical observation to assert, as Mr. Gerrard has done, that "*all experience confirms the contrary.*"

No writer on the subject, in so far as I am aware, has ever sought to assume that the periodic œstral discharge in brutes is as invariable in appearance, as copious, or as well defined as in woman. Saint-Cyr says "the phenomenon is normal, but not constant": one reason for its being not *constantly observed* is, as mentioned in Fleming's "Obstetrics," that it is often retained in the vaginal canal and passed (unobserved) during micturition. This is most common in mares, in which, through its being retained *in transitu*, it becomes darker in colour and more glutinous, some of it adhering around the external margin of the labiæ vulvæ, where it may often be seen and examined. Having occasion, a few days ago, to examine the external generative organs in a mare-pony, I found, all round the outer part of the vulva, well-marked signs of this dark-coloured bloody excreta —the pony having been *in heat* a day or two before.

Considering the exhaustive treatment which this matter has recently received in Fleming's "Obstetrics," both as to the physiological and anatomical reasons existing for the apparent differences between the catamenial discharge in human and brute, and as to the authorities (home and foreign) who have chronicled observations on the same, it would be very superfluous in me to enter into minute details thereupon. I will therefore confine my further remarks to two cases, from among many bearing on this question, which have happened in my own practice, and which I would hope go to prove the existence of true sanguinolent catamenia in the lower animals.

Before giving the history of these cases, it may be as well here to mention that sanguineous elements are sometimes

entirely absent or indiscernible even in women, in whom the amount and continuance of the discharge are also extremely variable. The quantity of the catamenia in woman may vary from three to eight ounces, and the discharge may continue from twenty-four hours to five days. These variations and omissions occurring in subjects (human), where the phenomenon is supposed to be constant, how can we expect an invariable appearance in subjects (brute), where it is supposed to be inconstant?

In the first case which I intend quoting, the catamenia (I think I may be allowed the expression in this instance) exceeded the extreme quantity in the human subject; in fact, it seriously alarmed the owner! On arriving at home one afternoon in the month of July, 1868, I found that there had been three separate messages requesting my immediate attendance at a place some two miles distant, where a cow was said to have been dangerously injured about her "water passage." On my arrival I found the cow, a strong, healthy young animal, all smeared about the hind-quarters with what seemed to be blood, a little of which was still escaping from the vulva; the latter being much tumified. The cow, along with other three, was grazing in a small plantation adjoining the cottage; but she appeared very restless, and, to my astonishment, all at once made a spring and got on to another cow's back with her fore-quarters. To make a long story short, she was *in heat*, and the bloody excreta with which she was smeared was neither more nor less than a copious sanguinolent œstral discharge—*catamenia*. She was served with the bull next morning, became pregnant, and in due course calved. The simple-minded owner was so astonished at the quantity of blood escaping from the vagina, that he thought the "herd-laddie" had been forcing a stick into her water passage!

On the 16th December, 1873, I was requested to attend a two-year-old brown cart-filly, belonging to a farmer in this locality. On calling next day I found the filly in a very bad condition: tucked-up belly, dry staring coat, and a bad-smelling, thin, reddish-brown discharge from her vagina. This discharge was occasionally copious, and seemed to be extremely acrid

and irritating, as the hips and thighs were denuded of hair and excoriated from its action. The filly had been gradually losing condition for a considerable time, when suddenly an abundant discharge took place from her vagina. This discharge continuing, I was consulted.

The *disease* was Uterine Leucorrhœa; and the *cause* was the retention *in utero* of the œstral products. I had previously asserted this to be a cause of Leucorrhœa in the *Veterinarian* for November 1872 (vol. xlv., p. 808). As a matter of course, this filly had never been put to the horse (*i.e., covered*), so that Mr. Gerrard cannot bring forward his *Hæmatoma*—which, by the way, he also calls *Pelvic Hæmatocele* (see the *Veterinarian* for July 1874)—and which he says is a disease he has always found occurring about a fortnight after copulation or parturition. In this filly (as well as in the case of Impervious Vagina) the fœtid sero-sanguineous fluid was altogether confined to the uterus, and so need not in any way be confounded with Mr. Gerrard's cases of Hæmatoma (or Hæmatocele ?), which were all outside the uterus, and apparently the *result of injury*—being in fact abcesses containing sanious pus.

As regards the filly, I consider that, owing to some congenital contraction about the os uteri or ostium vagina—most likely the former—the œstral products had remained *in utero*, had become fœtid and acrid, and hence excited by irritation sufficient inflammation to bring on a genuine attack of Uterine Leucorrhœa; in which the imprisoned diseased fluid soon accumulates to an enormous extent, so as to burst through any obstacle short of true atresia of the vagina. I maintain that this is the only way to account for the serious attack of Leucorrhœa which I had to combat in this filly; so that I consider this case another good proof of there being catamenia in the lower animals.

As recommended in my article in the *Veterinarian*, I treated the Leucorrhœa in the above case with Cupri Sulphas; it was applied to the filly both locally and constitutionally, and the result was a perfect, though tardy, recovery.

It is just worthy of note that the veterinary student (Sievwright) who was along with me at the time the case of Impervious Vagina occurred, made it the subject of a communication

which he read before the Medical Society at the New Veterinary College of Edinburgh; and the medical gentleman who was in the chair, a well-known lecturer on physiology and histology, said it ought for ever to settle the dispute as to the sanguinolent œstral discharge in the lower animals. At the same time he favoured the students with some very interesting details as to the disease in the young human female.

I cannot leave the subject without noticing the great exception which Mr. Gerrard has been pleased to take at my styling the imprisoned uterine fluid *sero-sanguineous*. He tells us that the menstrual fluid in woman is not so—of which I am perfectly aware. He tells us that the fluid in Uterine Dropsy is never sero-sanguineous—a fact which I cannot doubt. He must, however, bear in mind that my case was neither Uterine Dropsy nor pure and healthy menstruation; and, if he choose to consult the writings of our great medico-obstetrical authorities, such as Brande or Burns, on the subject, he will find that the imprisoned fluid, in such cases as mine, consists mainly of "*a solution of the colouring matter of the blood in a diluted serum.*"

In the case recorded by Mr. R. West in last month's *Journal*, *a large quantity of reddish-brown fluid* of a most offensive smell was ejected. This was precisely what occurred in my case, and I have no doubt Mr. West's case and mine were exactly alike, with the exception that, as the heifer in my instance was in prime condition, I caused the owner to slaughter her.

The discharge of a more or less quantity of a blood-like fluid in heifers and cows during the cessation of "heat," is so common and so well-known to all herdsmen, as scarcely to require any notice here; but, as Mr. Gerrard seems to be completely unaware of such a phenomenon, I would advise him to apply to any well experienced herdsman in some of his country rounds, and I have *no doubt* he will soon get *his doubts* on the matter solved.

Editorial.

CATTLE PLAGUE.

CERTAIN parts of the Continent have been, during January and February, invaded by Cattle Plague; and the scourge has found its way, in the usual manner, to this country. It appears to have first shown itself in Upper Silesia, on the frontier of Poland, and in the direction of the region where the Russian army is mobilized for the invasion of Turkey. The malady manifested itself soon afterwards in Hamburg (Jan. 13th), and was supposed to have been carried there by cattle from Berlin, at which city and in other parts of Germany it was soon reported.

The Veterinary Department of the Privy Council had timely notice of the existence of the disease in that country, and warned the port inspectors to pay particular attention to cargoes of German cattle. But it would seem that on the day before the outbreak was discovered at Hamburg, a cargo of infected cattle left there (Jan. 12th) for England; and when they reached Deptford (Jan. 15th) the disease was evident to the inspector. Certain precautions were adopted, but it was not until the following day that the animals were destroyed. It was imagined that there was no further danger; but in the course of a few days dairy cows in the vicinity were attacked, and subsequently a series of outbreaks has been reported, one of them being at Hull. An order in Council was published on Jan. 19th, placing France, Belgium, Denmark, and Holland in the same category as Germany; and when it was discovered that the contagion had eluded the measures adopted for its destruction at Deptford, another order was issued on Feb. 1st, prohibiting the departure of cattle, sheep, and goats from London; and on the following day another regulating the holding of markets and sale of these animals within the Metropolis; at the same time notice was given to the local authorities throughout the country of the existence of the malady, and warning them to be on the look-out. Cattle Plague having shown itself beyond the limits of the Metropolis towards the middle of February, an Order in Council, to take effect on and after the 13th of that month, was issued. This order was supplemental to the Animals' Order of 1875 and the Metropolitan Cattle Plague Order of 1877, and gave the local authorities power to prohibit the holding of markets or sales of cattle within their districts, with certain exceptions, so as to prevent the introduction or spread of the disease.

It would appear that doubts exist as to the manner in which the infection was conveyed into and beyond the Metropolis; though there need be no hesitation in asserting that wherever it has appeared it must have been carried in some way from an infectious source. If the ordinary and well-known measures are carefully and promptly resorted to, the pestilence will be stamped out, after much expense, anxiety, and inconvenience.

What concerns us most now, is the fact that the malady has been able to obtain a footing in England through the importation of diseased

cattle from Germany—a scheduled (*i.e.* suspected) country—and notwithstanding the fact that the officials had timely warning and were on the look-out for it when it was discovered at Deptford.

For years we have unavailingly pointed out the danger of relying on port inspection for the exclusion of contagious diseases in animals. No greater fallacy can exist than the belief that this inspection will preserve this country from the inroads of those terrible disorders which are attended by such grave consequences, and inflict such damage on the nation. It is absolutely impossible for any inspector to detect these diseases when latent, and there is no reason whatever why cargoes of infected cattle should not be passed by him as healthy. It is only when the disease is developed, and often only when it is in an advanced stage, that it will attract the attention of an official who may be on the alert. When we remember that the voyage from Hamburg to England does not occupy more than three days, and that the latent or incubatory period of Cattle Plague is rarely indeed less than four, and may be as many as twenty days, we need not wonder if outbreaks should occur in the Metropolis. Nay, an infected ox might be carried from Hamburg, landed at London, and conveyed to Aberdeen before the manifestations of the disease would be noticed. We cannot, therefore, be absolutely certain that the cargo of German cattle disembarked at Deptford on the 15th January was the cause of the Metropolitan and other outbreaks. The infection may have been introduced before that date, as it was evident that the sources of contamination existed at Hamburgh before the disease was discovered there. It was certainly most injudicious to keep the sick animals so long alive at Deptford, when their condition was ascertained. If they were discovered to be diseased on shipboard, they should never have been allowed to land.

There are some people whom no amount of experience will teach or plain facts convince. The uselessness of port inspection—nay, its dangers—has for years been demonstrated in the most obvious manner. Even in our traffic with Ireland its fallaciousness has been made clear as day. But though Ireland, as an exporting country, believes in its efficacy, yet when it comes to importation she at once condemns it.

Further, we learn that the vessel—a magazine of infection—was allowed to proceed to one of the London wharves without any precautions whatever being taken to cleanse and disinfect her or her crew, every one of whom would prove a bearer of the contagium, as well as the people or animals who came in contact with them, or who visited the ship. It can scarcely be doubted that at least some of the outbreaks may be traced to this strange neglect of the simplest sanitary teachings. When we consider the amazing potency and diffusibility, as well as the extraordinary vitality, of the Cattle Plague virus (many instances of which we have given in "Veterinary Sanitary Science and Police"), surely it is not too much to ask that ordinary circumspection, if nothing more, be exercised in dealing with the pest. It is true that we are utterly destitute of any organisation to cope successfully with contagious diseases in animals; and if we escape a severe visitation of this disorder,

good luck will have more to do with it than wise management or judicious forethought.

Under the circumstances, we can only appeal to the members of the veterinary profession to aid to the very utmost of their power in protecting the immense interests involved. Our colleagues, more than any other profession or body of men, can do the public a great service at this juncture; and motives of patriotism, as well as the demands of duty, should urge them to assist in every way in preventing or suppressing such a scourge. We add our appeal to that of the Lord President of the Privy Council (which will be found in the Proceedings of the Royal College of Veterinary Surgeons), and feel assured that both will be loyally responded to.

Has the mobilisation of the Russian army in Bessarabia anything to do with the origin of this outbreak? It may be surmised that it has; and in the event of war occurring in the East we may expect a general diffusion of the pestilence, which ever attends the movements of the Muscovite hordes towards the West. Such has been the teaching of history since the commencement of the fourth century, when the first Christian poet—in his poem "De Mortibus Boum"—lamenting the destruction of cattle which followed the irruption of the Huns into Western Europe, indicates the course of the scourge:—

> "Hæc jam dira lues serpere dicitur
> Pridem Pannonios, Illyricos quoque,
> Et Belgas graviter stravit, et impio
> Cursu nos quoque nunc petit."

The mortality among cattle during the Russo-Turkish war of 1828 was something terrible; it will be still more severe should hostilities be permitted to take place again in that region, as the facilities for the extension of the disease are so greatly multiplied. Have those people in this country who are striving to bring about a war, taken the destruction which will be inflicted upon Europe by the Cattle Plague into their consideration? Of course we presume the destruction of human life, and the years of misery which a war will otherwise produce, have already entered into their calculations.

RABIES CANINA.

THE interest excited by the prevalence of this disease continues; and the public press has discussed it somewhat extensively, if not always very satisfactorily. It is proposed that a scientific investigation of the malady be instituted by the Government, but we entirely fail to discover what benefit it would confer. The Royal Commission on Cattle Plague threw no new light on the malady, nor on its prevention or suppression, and it was a most expensive affair. It would be exactly the same with regard to Rabies. We know as much of the malady as we do of some of the human scourges, and we have often pointed out that this knowledge is not utilised. Perhaps

something might be done towards making our acquaintance with its pathological anatomy more exact; but this would in no way affect legislative measures, nor render its prevention better understood. Few animal diseases have been more attentively studied by veterinary surgeons; and if some points regarding it are still in doubt, as much may be said of some very destructive and prevalent human disorders. If the public would only avail itself of what veterinary science has achieved in this direction, there would be little need for apprehension. But if it is satisfied to lend an ear to the promulgators of such fictions as the *mental origin* of the disease, or the worse than stupid "dish of water test" for its diagnosis, then we have no hope for any immunity from its ravages or cessation of its extension. It is indeed astonishing to find at this time of day so much nonsense written with regard to this contagious disorder. A short experience of it among animals would prove that it is no more a mental disease—so far as its etiology is concerned—than are Small-pox and Measles in man; and the imagination will no more produce it, or Tetanus, than it will originate Typhoid Fever or Syphilis. The twaddle written about "animal insanities" would be amusing if it were not so dangerous; it betrays a strange ignorance of animal life and animal pathology.

In connection with this subject, and in the same category as the "mental" genesis of Rabies and the "dish of water" test, come the reputed remedies, prophylactic or curative, for the disease. These are innumerable, and unfortunately have no more claim to consideration than the developmental and "water" notions. The latest of these remedies is the *Xanthium spinosum*, brought under notice by Dr. Grzymala, of Krivoe Ozoroe, Podolia (see the *Veterinary Journal*, vol. iii., p. 312), who asserted that he had employed the leaves of the plant in powder (nine grains three times a day for three weeks), and in more than a hundred cases only one proved unsuccessful. This alleged success caused a great sensation in this country and on the Continent, and was everywhere quoted. For centuries such successes have been reported; and though all the reputed remedies or preservatives have, after obtaining a certain number of partisans and imposing for a while on the credulity of mankind, been proved to be impotent, yet so constituted is the popular mind that it readily yields itself to every fresh deception, and cherishes illusions as long as it possibly can,—particularly with regard to this disease.

Last January we reported the failure of *Xanthium spinosum* to hinder the appearance of Rabies in animals; and in the *Archives Vétérinaire* for Dec. 25th, 1876, we have a second series of experiments reported, which are, if possible, still more conclusive of its impotence. We can only hope that those medical men who commit themselves to the opinion that Rabies and Tetanus are due to moral influences will avail themselves of an early opportunity to study these maladies in animals, and the reputed remedies for them. Prophylactic remedies crop up in abundance, but few for the cure of the disease. This is due to the fact that every dog which bites people is not rabid, and that only a variable, and generally small, proportion of those actually inoculated with rabific saliva are ultimately infected: consequently, a preservative may maintain its reputation for some time, simply because there is nothing to be preserved from. This will account for the success of all the reputed specifics which are not subjected to such a crucial experimental test as the *Xanthium spinosum* was at the Alfort Veterinary School.

On August 23rd, Professors Trasbot and Nocard carefully inoculated eleven dogs (seven of which were puppies) with saliva from a living rabid dog. Six of these received every day a dose of the Xanthium in proportion

to their size. The other five were left alone, to testify to the virulence of the saliva with which they had been inoculated. On Sept. 6th, thirteen days after inoculation, dog No. 2—one of those submitted to Dr. Grzymala's treatment—showed all the symptoms of Rabies, and died on the following day, after covering dog No. 1 (also inoculated) with bites, and breaking its right thigh. On Sept. 7th ten inoculated dogs remained, and of these Nos. 1, 5, 6, 7, 8 received the Xanthium every day in the form of pills. The last four dogs received the pills (one gramme of Xanthium every day) until Sept. 17th; while No. 1 (a two-year old terrier bitch) got ten grammes daily until Sept. 27th inclusive, in consequence of the wounds it had received from No. 2 on the 6th of that month.

From Sept. 20th to Oct. 27th the seven young dogs died in succession, after presenting certain fugacious nervous symptoms which were not sufficiently marked to indicate that they were related to Rabies: the alteration in the voice, tendency to aggression, and ingestion of foreign substances, were all absent in them, so that the existence of the malady could not be definitely established. For, with regard to experimentation, only those facts which cannot be gainsaid should be accepted, and all doubtful observations be put on one side. The death of these seven animals is therefore only mentioned, and no deductions in favour of the conclusions arrived at were made with respect to them.

On Nov. 24th dog No. 1 offered all the symptoms of Rabies: hoarse stridulous voice in two tones, difficult deglutition, and marked excitability; nevertheless, it did not attack its cage companion, and seemed to pay no attention to it. On the 25th the symptoms were still more definite: the voice was weak, hoarse, and scarcely audible; the constriction in the region of the throat was most intense; the eyes were sparkling, injected, and haggard; and the litter in the kennel completely pulverized. The creature died during the following night; and when opened the next morning, the stomach was found to be filled with straw, the intestines containing only a few fragments.

In *résumé*, two of the dogs inoculated with rabific saliva, and submitted to the treatment recommended by Dr. Grzymala, died rabid—one only thirteen days after inoculation, and after having received 125 grammes of powdered Xanthium; the other eighty days after being bitten by the preceding dog, and although during the twenty-five days after inoculation it had received daily ten grammes of Xanthium powder in pills,—an enormous dose when compared with the size of the animal,—four and a half kilogrammes.

This series of experiments, together with those alluded to in a previous number of the *Veterinary Journal*—and particularly that of dog No. 1 in this series—demonstrate in the most convincing manner that the *Xanthium spinosum* cannot cure Rabies, neither will it prevent its development after natural or experimental inoculation with rabific saliva.

MM. Trasbot and Nocard deserve much credit for furnishing us with this instructive demonstration; for if it be true that the administration of a remedy *reputed infallible* may spare some unhappy people from the terrible anxiety which succeeds the bite from a mad or suspected dog, by acting as a *placebo*, it is not less evident that it was necessary to furnish human and veterinary medicine with reliable information as to the real value of the highly-vaunted nostrum, and the danger that must result from adopting it and neglecting *immediate recourse* to those precautions whose trustworthiness experience has proved up to the present time—suction of the wound, circular ligature above the bite—where it is possible, cauterisation, etc.

THE FITZWYGRAM PRIZE COMPETITION.

THIS prize competition, which will probably take place on March 21st, is open to students of the veterinary schools in this country, and also to graduates of the R.C.V.S., who have obtained their diploma since May, 1876.

The prizes are three in number. The first is of the value of £50; the second £30; the third £20.

The competition will take place next April. It will consist—1st, of a written, and 2nd, of a practical and *vivâ-voce* examination, on subjects pertaining to veterinary science.

1,200 marks will be assigned to the first part, and 600 marks to the second part.

In the first part the marks will be assigned as under—

Anatomy, 300; Physiology, 300; Pathology, 300; Chemistry, 150; Botany and Materia Medica, 150.

In the second part as under—

Diagnosis of Disease, 200; Shoeing, 100; Examination for Soundness, 200; Selection of Horses for Specific Purposes, 100.

A competitor failing to obtain *half the number* of marks assigned to any of the papers in the written examination, will be excluded from the second or *vivâ-voce* examination.

The examination papers, with number cards, and blank sheets or books for the competitors to write upon, will be forwarded under cover to the superintendents or other appointed persons, so as to be received by them as near the day fixed for the examination as possible.

Writing materials for each competitor will be provided, and all arrangements for the accommodation of the competitors completed, before the hour fixed for opening the envelope containing the questions.

* Competitors should be in their places at the time appointed; no extra time will be allowed to competitors who come in late; they will, however, be allowed to take their place if they come in before any one has left the room.

* The numbered envelope containing the questions of the series to be answered (No. 1, 2, or 3, etc.) must be opened at the hour fixed, by the superintendent in the presence of the competitors. A copy of the questions will be given to each competitor, with a card, on which is a number; this number is that which the competitor will bear during the examination, and on each paper or book given him to write his answers he must insert this number at the right-hand upper corner, for the purpose of final identification. No examination paper shall be taken from the room until the examination is complete.

The superintendent or other person appointed must carefully watch the whole examination, and guard against the competitors using unfair means, such as resorting to books or notes. No person except the superintendent should be permitted to be present, and competitors should on no consideration be allowed to speak to each other after the copies of questions have been distributed.

* At the expiration of the period fixed for answering the questions, writing will at once cease, when the written papers must be signed at the end by the superintendent, as a guarantee that they were written by the gentlemen whose numbers they bear. He then collects them and the tickets; and when the examinations are finally concluded, encloses them in a sealed envelope, and forwards them by the earliest opportunity to the address indicated below, along with the declaration duly filled in and signed. If no clock is in the room, the superintendent is to announce the expiration of each hour.

The superintendent enters in a book the name of each competitor, for verification, as well as the number on the ticket he has given him. The name and number are not revealed until the examiners have awarded the marks to each subject.

N.B.—The paragraphs marked * should be read aloud to the competitors before commencing their writing.

Competitors are prohibited, *under pain of instant dismissal*, from introducing any book, manuscript, or references of any kind, into the examination-room, from communicating with or copying from each other, and from communicating with any person outside the examination-room. Every competitor is desired to write his number *very distinctly* at the top of the first page of each of his answer-books, and is warned that if any portion of his answers be left upon *separate* leaves, they may not improbably be lost. *Answers to be written on only one side of the paper*, and each answer to be marked on the *left-hand margin*, with a number corresponding to that of the question.

The names of intending competitors are to be forwarded to the Secretary of the Royal College of Veterinary Surgeons, 10, Red Lion Square, at least one week before the date of competition.

The first portion of the examination will take place in London for the Royal Veterinary College, and in Edinburgh for the Scotch schools.

The five best competitors in the first or written examination will be selected for further competition in the practical or *vivâ-voce* test.

This further competition will be held in London this year.

The donor will give an allowance of £4, for travelling and other expenses, to each selected competitor proceeding from Edinburgh to London for the second part of the competition.

Reviews.

Outlines of Equine Anatomy: a Manual for the Use of Veterinary Students in the Dissecting Room. By John Henry Steel, M.R.C.V.S.

The production of a work of any description by teachers at the Royal Veterinary College, is such a rare event as to cause astonishment; the publication of a book by veterinary teachers for the guidance of students, is an unprecedented occurrence. Though the school has been in existence for more than eighty years, and claims the distinction of being the *Alma mater* of veterinary science in Britain, yet it has only, during this long period, produced two little books—on materia medica—which may be designated manuals, and neither of which were written by veterinary teachers, properly speaking.

Not only has the school failed in this most essential duty, and neglected to advance veterinary science by fostering and adding to its literature,—but, like the dog in the manger, there is only too much reason to believe that the fact of others attempting to do so was most unpleasant to it, and that only too frequently its efforts have been directed towards discouraging rather than encouraging writers. The result is here again evident.

A change, nevertheless, must occur, and that soon; and we gladly hail a forerunner of it in the little manual, the title of which heads this notice. Thanks, however, to the exertions of several veterinary surgeons, students were already well provided with excellent text-books on the anatomy, not only of the horse, but of all the domesticated animals; there was, therefore, less need for assistance in this than in other branches of their studies—physiology, therapeutics, pathology, surgery, etc.

There is little scope for criticism in the "Outlines." It is evidently not intended for the advanced student of equine anatomy—and we cannot discover that it gives us any new facts. The absence of woodcuts will be a drawback to the beginner, in refreshing his mind after working in the dissecting room; for, after all, our knowledge of anatomy is not perfected there—a fact of which writers of books on human anatomy are fully aware, and which Continental veterinary teachers fully comprehend. Some of the details differ from those given in other text-books, and from what we ourselves have observed; but this difference may be due to the circumstance that the *ass* only is dissected at the Royal Veterinary College, seldom or never the horse—a great disadvantage to students; and as the anatomy of this creature differs much in some respects from that of the horse, this may account for the discrepancies.

One of the traditions in Camden Town is that the distal or lower extremity of the true rib is *convex* and *coated* with *articular* cartilage. This tradition, like some of the other traditions, is peculiar to the school, and it may be founded on a chance instance; but it is repeated by Mr. Steel at page 59, and possibly he may have seen this deviation. In no other work on the anatomy of the *horse* is the true rib so described; and in no instance, except in old horses, when the prolonging cartilage has become ossified, have we noticed anything like it. At a former period, when this matter was discussed, we made a careful examination of many skeletons of horses, procured dozens of ribs from the knackeries, and found the description given in Chauveau's work to be quite exact. Not only this,—but to make assurance doubly sure, we examined skeletons and ribs of horses in the Museum of the Royal College of Surgeons, along with Professor Flower, the Curator, who uses Chauveau's Anatomy as his dissection manual, because of its correctness; and in this instance, as in almost every other, it was not at fault.

If Mr. Steel is determined, in spite of discouragements, to work and write for the profession, we anticipate great benefit from his efforts. He has lost no time in proving that he is willing; of his ability we have every reason to be satisfied; while his position should afford him ample leisure. We trust he may soon give us something more valuable than the "Outlines," valuable as they will undoubtedly prove to the junior student.

A Course of Lectures on Physiology. By Küss, Duval, and Amory. London: Baillière, Tindall, & Cox, 1876.

This is a manual of physiology, based on a course of lectures delivered by Professor Küss at the University of Strasbourg, edited by Professor

Duval, and translated from the second French edition by Dr. Amory. The work is in several important particulars to be highly commended as a text-book for advanced students. The facts in physiology are clearly and concisely stated, and the relations of the latter to histology presented in an interesting and very instructive manner; while all the most recent researches, and especially those of Continental investigators, are lucidly set forth and embodied in the work, so as to give the student an excellent idea of the present state of physiological knowledge. Some of Professor Küss's views are peculiar and striking; and particular stress is laid upon the part played by cells. Altogether, the work can lay claim to remarkable conciseness, lucidity, and completeness. Within the space of about five hundred pages everything the student requires to know of physiology is to be found. The translation appears to be correct; it is certainly pleasant to read. Until veterinary students are provided with a text-book on the physiology of the domesticated animals, they could scarcely do better than avail themselves of the assistance to be derived from this excellent little book.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD FEBRUARY 6TH, 1877.

Present—Col. Sir F. Fitzwygram, Bart., President, in the chair; Professors Simonds, Brown; Messrs. Batt, Collins, Duguid, Fleming, Gowing, Greaves, Harpley, Hunt, Moore, Naylor, Pritchard, Withers, and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the last meeting were read and confirmed.

Correspondence.

The SECRETARY stated that a letter had been received from Mr. Field conveying his sincere thanks to the President and Council for the letter of condolence and sympathy that had been sent to him on the occasion of the death of his son, Mr. Wm. Field.

Letters had also been received from Mr. Fleming, Mr. Harpley, and Mr. Lambert, acknowledging the honour of their election as members of the Scotch section of the Court of Examiners.

A letter from Mr. Payne, asking that his son, who had been rejected three times, might be allowed to again present himself for re-examination.

The SECRETARY stated that in answer to this he had written to the effect that the President was unable to comply with Mr. Payne's request.

A second letter, dated 2nd February, was then addressed by Mr. Payne to the President, respectfully urging him to re-consider his decision.

After some conversation, it was decided that the President should write to Mr. Payne on the subject, and that the question be for the present postponed.

Election of First Fellows.

The SECRETARY stated that replies had been received from fifty-two gentlemen, all of whom were desirous of being elected Fellows under the Supplemental Charter; fourteen had declined the honour, and there were ten from whom no reply had been received.

Letters were then read from Professor Walley proposing the names of certain gentlemen as being eligible for being elected Fellows, and from Professor Ferguson recommending certain gentlemen as Irish Fellows.

The Council were then engaged for some time in discussing the qualifications of the following names that had been proposed in addition to those already on the list:—Mr. Clement Stephenson, President North of England V.M.S.; Mr. Matthew Hedley, President North of England V.M.S.; Mr. George Poyser, Original Research; Mr. George A. Lepper, Vice-President R.C.V.S. 1867, 1875; Mr. Clement Lowe, Vice-President 1870, 1871, 1872, 1873; Mr. Joseph Hewitt Welsby, Original Research; Mr. Bamfield Kettle, Original Research; Mr. Graham Mitchell, Original Research; Mr. John Stewart, Original Research; Mr. William Dewar, President North of Scotland V.M.S.

The Committee of Selection from Ireland accepted for further enquiry the following names:—Mr. James King, Belfast; Mr. David Paley, Dublin; Mr. Thos. Simcocks, Drogheda; Mr. Matthew Murphy, Dublin; Mr. John Jenks, Dublin; Mr. Charles Joseph, Dublin; Mr. Thomas Richardson, Clonmel.

A letter from Professor Walley, Veterinary College, Edinburgh, was read, in which he stated that as a Member of Council and of the Fellowship Committee he had great cause of complaint in not having been made officially acquainted with the proposed alteration in the election of "Primary Fellows" under Mr. Greaves' proposition—namely, that those who had been practising with the Highland and Agricultural Society's certificate, and who had been fifteen years in practice, be admitted. This, in his opinion, would lead to much dissatisfaction.

Mr. GOWING said that, on due reflection, he had come to the conclusion that those gentlemen who had been enabled by the suspension of a byelaw to be brought before the Examiners, had been accepted by the Council, and had received the diploma of the R.C.V.S., should become members of the body corporate.

The PRESIDENT then proposed that those whose names had been previously considered be now accepted, and that the above names that had been discussed be referred to the Committee, and that the Committee be authorised to write or make further investigation, should such a course be found necessary. The whole of the Fellows could then afterwards be elected together.

This suggestion was agreed to, and it was also resolved that those gentlemen from whom no replies had been received be again written to.

Presentation to the Library.

The SECRETARY announced the presentation to the Library, by Mr. Fleming, of the sixth part of his work on "Veterinary Obstetrics."

On the motion of Mr. HARPLEY, seconded by Mr. HUNT, a vote of thanks was passed to Mr. Fleming for his presentation.

The PRESIDENT stated that Mr. Collins, Mr. Duguid, and Mr. Dray had been appointed a committee to consider the advisability of removing "Pharmacy" from Clause 6 to Clause 8 in the Education Scheme; but of these three gentlemen only Mr. Collins had attended, so that the report

would have to stand over until next meeting. The Court of Examiners had also been appointed to consider the proposed alteration at the Examination Tables on Horse and Cattle Pathology; but it appeared that this change could not be made under the existing byelaw. All that could be done at present, therefore, was for him to give notice that he would move, in lieu of Byelaw 37, that "At the second examination there shall be three tables, one for physiology, pathology, and morbid anatomy; one for veterinary medicine and surgery as applicable to horses; one for veterinary medicine and surgery as applicable to other animals; time at each table, twenty minutes."

Representative to the Royal Agricultural Society.

The SECRETARY stated that a letter had been received from Mr. Jenkins, Secretary of the Royal Agricultural Society, asking him to move the Council of the R.V.C.S. to nominate one of their number to act as their representative on the Veterinary Committee of the Council of the Society.

The PRESIDENT thought that as Mr. Harpley had taken a great deal of interest in the Royal Agricultural Society, and had attended one or two of their meetings, he would be a very good representative of the Council on the Veterinary Committee. He therefore begged to move that Mr. Harpley be elected for the post.

Mr. MOORE seconded the motion, which was carried unanimously.

Mr. HARPLEY, in returning thanks for the honour which had been accorded to him, said it was due to the Council that they should know the feelings of the Royal Agricultural Society in this matter. They had for a long time wished that some direct communication might take place between the Council and their own body, and they thought that if a representative from the Council were placed on the Veterinary Committee their object would be attained. With a view to bring about this necessary amalgamation, he had been asked in a private capacity to attend their meetings, and he had done so. At their last meeting they felt it would be an advantage to both the institutions if some one were elected to represent the Council of the College officially. In consequence of that, a letter had been forwarded to the President, asking the Council to elect a member. It was very necessary to have some one to hold direct communication with the Royal Agricultural Society, for they had offered what he considered a most admirable thing—namely, prizes to the best students for the year; and if a favourable report was returned from the Examiners, the Royal Agricultural Society would, no doubt, extend the benefits to the members of the College. He was able to say that the Royal Agricultural Society had a great desire to assist the Council in every possible way.

New Form of Diploma.

The design for the new diploma was submitted to the Council, and referred back to the engraver for further alterations.

Alteration in the Present System of Examination.

The PRESIDENT moved "That notice be given to the Schools that the present system of examination will cease after the Christmas examinations of 1878, for students who entered previous to October, 1876." Professor Simonds wished that the latter words should be added. They were certainly not, in his opinion, an improvement; but as Prof. Simonds had principally to do with the School, he (the President) thought the words should be added.

Mr. FLEMING seconded the motion, which was carried.

Election of Examiner in room of the late Mr. W. Field, jun.

The PRESIDENT said he was under the impression that it would not be

necessary to elect an examiner, and that the remaining six would be sufficient; but on referring to the byelaw, an alteration of which he had given notice, he found it was necessary that there should be seven examiners at the second examination. Practically the additional examiner would only be required for six months, until the new byelaw, of which he had given notice, came into operation. With a view to amalgamating the Scotch and English sections, he would propose Mr. William Robertson, of Kelso, and he had reason to believe that that gentleman would accept.

Mr. GREAVES, in seconding the motion, said he knew that Mr. Robertson was a most efficient examiner.

The motion was put and carried.

The Prevention of Contagious Diseases in Animals.

The following letter from the Privy Council was read :—

"Veterinary Department, Privy Council,
"44, Parliament Street, Westminster.

"SIR,—It has been suggested that the discovery and prevention of diseases of animals would be facilitated if veterinary surgeons were to give immediate information to the owners of horses and other animals which they are called in professionally to treat, of the existence of any contagious or infectious disease among their stock, in order that the owner may give the notice required by Article 5 of the Animals Order of 1875.

"The Lord President of the Council is of opinion that it is very desirable that the persons who are bound to give this notice should be reminded of their duty in this respect by the veterinary surgeons whom they call in.

"I am therefore directed by His Grace to request that you will have the goodness to bring this matter before the Royal College of Veterinary Surgeons, and to inform them that the Lords of the Council would feel much obliged if the College would in any way assist in the attainment of this object.

"I am, sir, etc.,
(signed) "C. L. PEEL.

"The President, Royal College of Veterinary Surgeons,
"10, Red Lion Square."

Mr. HARPLEY moved that the letter be entered on the minutes, and that a letter be sent to the Lord President, stating that the Council would have great pleasure in making known His Grace's wishes.

Mr. HUNT seconded the motion, which was carried.

This concluded the business of the first special meeting; and a

SECOND SPECIAL MEETING

was then held, for the further consideration and adoption of the byelaws which were submitted at the last meeting of Council.

The PRESIDENT explained that the alterations must be adopted *en masse*. They had been printed, and a copy sent to all the members of the Council. He would suggest, therefore, that the letterpress be kept standing, and after the new Council had been elected at the annual meeting any further alterations could be made if necessary, and, after the usual notice had been given, they could be finally settled about July. In the meantime, however, they must be adopted and confirmed. He therefore begged to move "That the byelaws be adopted, and that within fourteen days a special meeting be called to confirm them."

Mr. BATT seconded the motion, which was carried.

The next special meeting was fixed for Tuesday, the 20th inst., and the proceedings terminated.

CENTRAL VETERINARY MEDICAL SOCIETY.

AT an ordinary general meeting of the above Society, held Thursday, January 18th, at 10, Red Lion Square, W.C.,

Mr. J. ROALFE COX, alluding to the vacant chair, said: "Standing first on the list of Vice-Presidents, a melancholy duty devolves upon me. A subject fraught with so much sadness, and uppermost in the thoughts of each of us, can scarcely be considered out of place. Little dreamed we, at the last meeting of this Society, that we were so soon to be reminded that 'in the midst of life we are in death'; and the sad and sudden departure of William Field from amongst us was an intimation to each of us, 'Be ye also ready.' We have lost a valued friend, and this Society has lost in its late President a zealous and esteemed supporter and fellow-worker. Possessed of attainments and advantages in advance, perhaps, of most, and which he ever exercised in his profession's cause, I always admired William Field as a member of our calling, and can hold up no better example to the rising generation to follow. He ever delighted to exercise his talents liberally with his brother practitioners; and not the least gratifying testimony and tribute to his memory, is the recollection we can bear of him that in him was an honest man. I propose that a letter of condolence be sent to Mr. and Mrs. Field, expressive of our sincere sympathy in their sad hour of trial. I feel I express the wishes of every Fellow of this Society in testifying to the loss of a sincere and esteemed friend."

The motion was seconded by Mr. GOWING, sen., and upon Mr. Cox being called to the chair, it was put to the meeting and carried unanimously.

The ballot for the election of Mr. William Mole, of 1, Naylor's Yard, was proceeded with, and he was duly elected.

Professor Duguid, of the Brown Institute, Wandsworth, and Mr. T. G. Batt, of North Row, were proposed for election, and will be duly balloted for.

Professor AXE introduced a morbid specimen, with the following history, etc. It consisted of the vena saphena and a portion of the metatarsal and extremity of the plantar vein, the same being generally thickened, as also the valves, in which were several emboli. One of the tributary branches to the saphena was plugged with the coagulum, and there was a large clot attached to the internal surface of the vein itself. The subject was an aged cart-horse, which some weeks since received an injury to the coronet, on which supervened caries of the pedal bone. Being brought to the College infirmary, he was treated, but without benefit, the caries being advanced; he evinced no constitutional disturbance; a week or less prior to death he became suddenly prostrated; being lifted, he was set in slings, when constitutional symptoms became more apparent and intense, more especially in the respiratory tract—it being clear, from the absence of disease in the trachea, and of all the phenomena of Bronchitis, that the lung tissue itself was the seat of the disease, which *post-mortem* examination afterwards confirmed. From the time of being slung, the hind extremity—the seat of the lesion—began to swell from œdema of the skin and subcutaneous tissue, followed by an oozing of serum from various points, which in some parts of the leg became confluent and patchy, the serous effusion being in some instances attended with bleeding. Apart from the lesion shown in the specimen of veins produced, there was extensive caries of the pedal bone, and an almost complete disorganization of both lungs. The Professor assumed that the injury involved the bone in *ostitis*, on which supervened caries, from its acute and protracted nature; and through the softening and breaking down of the bone, the veins of the foot were exposed, and induced Phlebitis, not of a suppurative kind. This

gave rise o a coagulum of blood, which was liberated, and broke up in the form of emboli, gathering by accretion the fibrin, which materially increased their size, and, gravitating into the pockets of the valves during transit from the foot to the femoral vein, acted forcibly on the vein itself, causing universal thickening. The next point of interest was the implication of the lungs in the injury. Remembering the progressive increase in the size of veins towards the heart, there would be no interruption to a large clot passing into the right side of the heart and thence to the lungs ; that clots did so was proved by their existence in the pulmonary arteries (the tertiary), where were old clots fully exposed. The lesions in the lungs were essentially those of Embolism ; and universal rupture of capillaries, with hæmorrhage also, had led to sloughing. Professor Axe inferred that when horses die from so-called Inflammatory Fever, supervening upon diseases of bones and fistulas, if more care were taken in the examination of veins, they would be found to have their origin in Phlebitis, culminating in Aneurism of the Lungs.

The CHAIRMAN observed that the disease was recognised by all of us as a common form, the especial value of this one lying in the care with which the *post-mortem* examination was made.

Mr. GOWING, sen., asked Professor Axe whether he considered the caries and ulcerative process the first cause of clot formation, or due to the œdema impeding the circulation.

Professor AXE considered it arose from the vitality of the vessels being very much reduced, also their diameter. It was shown that the internal membrane was very rough, and had fibrous accretions.

The CHAIRMAN, in describing a specimen produced by him, said it was from a grey horse nine or ten years of age, used as a hunter, and to which his attention was casually directed as "not feeding well." He found nothing striking as to pulse or physique ; he was thin, lank in the neck, and had a general lack of flesh. Finding resistance offered to an examination of the mouth, he inferred he had been previously much dosed. He simply ordered "short commons" for that night ; but the next day was summoned to make a *post-mortem* examination of him, as he lay dead in the box, with the litter undisturbed. The liver was very small and hard, and constricted, as if tied with tape in several directions. Spleen enormously distended, hard and black, weighing sixteen pounds, or nearly three times that of the normal viscus, being apparently the result of continual congestion. The heart was notably large ; there was extensive disease of the aorta, and to such an extent that he thought it well to secure a large portion thereof, which he sent to Mr. Duguid.

That gentleman, being called upon to continue the remarks bearing on the case, said the heart was hypertrophied, the sinuses valsalvæ being completely filled with fungous growths, and thickened ; calcification and accretion in and under the coats of the vessels, the lining membrane thereof having given way, and the point of interest being that in the artery we had the granulations extending along the vessel passing from the aorta. No doubt Embolism was the cause of death. Respecting the previous history of the animal nothing could be learned, it being a recent purchase.

Mr. BATT had observed precisely similar appearances in the *post-mortem* of a horse, the subject of severe and painful Rheumatism. In this instance the pulse was only a little quicker than normal.

Mr. F. J. MAVOR said he would be glad to know if there were any diagnostic symptoms of aortic disease. He had found such animals show want of energy, and a loss of appetite and condition.

The CHAIRMAN believed if the stethoscope could be introduced into practice, we could better hope to diagnose all such cases. The specimen, though excellently preserved by Mr. Duguid, was very different to what it was when

fresh, when the fungous growth and elevations beneath the lining membrane and along its surface were like a piece of embroidery, being the most marked he had ever seen. It was a marvel the animal showed so little trace of any ailment.

In reply to a question, Professor AXE said he believed Mr. Liston's aorta was in the museum of the School of Anatomy at St. George's (Mr. Lane's old school), Liston himself diagnosing his complaint; with this diagnosis, however, his friends did not agree.

The subject was illustrated by two microscopes brought by Messrs. Batt and Duguid.

The meeting then adjourned. Present, eleven Fellows and two visitors.

JAMES ROWE, JUN., *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL SOCIETY.

THE usual quarterly meeting of the Liverpool Veterinary Medical Association was held at the Medical Institute, Hope Street, on Friday, the 19th of January, at 4 p.m., the President, Mr. Woods, Wigan, in the chair. There were also present—George Fleming, Esq., F.R.G.S., Royal Engineers; Messrs. Peter Taylor, Thomas Taylor, W. A. Taylor, Greaves, Faulkner, Hopkin, Alexander Lawson, Whittle, Barnes, T. Roberts, Joseph Welsby, Storrar, jun., W. Dobie, Kenny, Morgan, Cave, W. Elam, C. W. Elam, Harwood, Wm. Leather, Thos. Leather, Hutcheon, J. W. T. Moore, G. Heyes, Dixon, and the Secretary.

The minutes of the preceding meeting having been read and confirmed, Messrs. Faulkner, Manchester, and Dixon, Southport, were unanimously elected members of the Association.

In the absence of Mr. Leather, sen., Mr. William LEATHER proposed that the subscription to the Association be increased from ten shillings to the original sum of twenty shillings per annum. The proposal was seconded by Mr. Morgan, and there being no amendment, it was unanimously carried.

The PRESIDENT delivered the following address:—

"Gentlemen,—In rising to address a few brief remarks to you, I feel it to be my duty to thank you most cordially for the honourable position in which you have placed me to-night. Although I feel incompetent to occupy this chair as it ought to be filled, and willingly acknowledge my inferiority in this respect to my predecessors, I have accepted the distinction in the full assurance that the members will be patient with my inexperience and lenient towards my deficiencies in the conduct of these meetings. A much bolder man than myself might well hesitate to follow my immediate predecessor, Mr. Morgan, who has presided over the meetings of this Association during his years of office with an amount of tact and ability to which I can never hope to attain, and which it would be impossible to excel. But I feel sure I shall have your assistance and kind indulgence for any of my shortcomings, and you may rest assured that any defects will be due to want of knowledge rather than to want of courtesy.

"It appears that all subjects appertaining to the veterinary profession have long since been exhausted in addresses to the numerous associations similar to ours; so I shall only make a few remarks, which will be directed principally to the education of the veterinary student.

"One thing in particular has always struck me as remarkable—viz., that two opinions could exist with regard to the amount of education a pupil should be possessed of. 'As if he should go so far and no farther.' In my opinion,

a youth intended for the veterinary profession cannot be *over* educated, with this proviso—that he serves an apprenticeship to some duly qualified man ; his fastidiousness against dirtying his fingers, and turning up his nose at offensive odours, will disappear as a love for his work is created ; and if he has no love for it, the sooner he quits the profession the better, for he will never be any credit to himself nor benefit to his employers. But, gentlemen, if we are not to be educated equally well with the members of our sister profession, how can we ever expect the Legislature, or the public, to estimate us on an equality with them? and how can we ever expect to uphold the same status in society?

"I think a step in the right direction has been taken by the Royal College of Veterinary Surgeons, in prolonging the studies of the student from three to five sessions, or eight terms. When I was student we had only two sessions, and one examination. a

"I think this a gigantic stride towards the adva ncement of the profession, but we do not rest here ; we have got the meetings of the Council of the Royal College of Veterinary Surgeons periodically movable from the Metropolis. They can now be held either in Edinburgh or Dublin, and I think we may next agitate to have them held in Liverpool, Manchester, and other large provincial towns. We can now vote by proxy for members of Council—a privilege we never before possessed ; so you see we have had many small things granted, which collectively amount to a great deal, and I think we may confidently anticipate much more. In Professor Williams' opening address this session, he refers to one of the byelaws of the new Charter, which precludes a student ever presenting himself for re-examination after having been thrice rejected. I quite agree with Pofessor Williams in thinking this a very great hardship, for there may be some dry stu dy which the student cannot master, or take sufficient interest in to thoro ughly grasp, and, hoping the examination upon this head may not be a very stringent one, has neglected it; and, after all, the subject may not be one of vital importance to his success as a practitioner. I think if he has the determination to follow up his studies, I should certainly give him the chance of redeeming himself ; and as he would have to pay a fee each time he presented himself before the Board of Examiners, he would not re-present himself without having devoted some time to that speciality in which he had previously been proved deficient. Now a word with regard to the preliminary examination at the several colleges. In my opinion it is not sufficiently stringent, and think the authorities would do well if they would make it more so, as it would make the students work before going in for it, and thus facilitate their labours at college ; while it would give the professors themselves greater satisfaction if they knew that the students to whom they lectured had received a more liberal education than is at present necessary to pass the matriculation test. Indeed, I think it would be a deal better if, as with the sister profession, examinations were held periodically, so that a preliminary examination could be instituted before the student had even commenced his apprenticeship ; then, if he failed, his prospects would not be so bad as at present, when failure means being thrown out of college for so long.

"I would now like to say a word with reference to the insufficiency of the fee allowed to veterinary surgeons for attendance and giving evidence in a court of justice. Surely our endeavours to allay the sufferings of the lower animals are only in degree inferior to the alleviation of the sufferings of mankind. One stipendiary magistrate, indeed, has said that *7s. 6d.* per day is all he would allow for the attendance of a veterinary surgeon in court. Now, is this behaving fairly to the profession? Has such treatment as this a endency to create in well-educated young men a desire to become members

of the profession? I think something might be done to make our fee equal to that accorded to a surgeon acting in similar circumstances.

"In conclusion, let me urge you to attend these meetings regularly and punctually. I am sure there is nothing so disheartening to a President as to see a lot of empty benches, a lack of subjects for discussion, or the want of a volunteer to bring forward a paper. Often when I have heard apologies read for non-attendance—and some do not even condescend to do that—I could not help thinking that instead of receiving a circular giving them due notice of the meeting, had it been a request from some new and desirable client, the time would, in all probability, have been most readily found. I also think the good derived from attendance at these meetings by listening to accounts of peculiar cases, by joining in discussions, and by knowing whether the treatment adopted in familiar cases is the best one, must be a source of gratification and of instruction to every man, no matter what his experience or attainments may be; and I am sure no one can come here without deriving some amount of knowledge which he did not before possess."

Mr. GEORGE FLEMING, Royal Engineers, then read an interesting and scientific paper on "Epilepsy and Vertigo."*

A discussion on the subject, and also upon points of treatment of the diseases introduced by the essayist, was entered into by Messrs. Peter Taylor, T. Taylor, W. A. Taylor, G. Morgan, C. W. Elam, Hopkin, T. Greaves, T. Roberts, and the President, upon which Mr. Fleming replied at length.

The following gentlemen were nominated for membership :—

Messrs. Townson, Liverpool; Joseph Hutchin, Liverpool; J. W. T. Moore, Chief Inspector of Privy Council for the Port of Liverpool; George Cane, Liverpool.

A cordial and complimentary vote of thanks was accorded to the essayist, and one also to the President.

At the termination of the meeting the members and visitors adjourned for tea to the Adelphi Hotel, and a most enjoyable evening was spent.

RICHARD REYNOLDS, *Hon. Secretary.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

THE reopening of this Association took place on January 11th, with a full attendance of members and several visitors. The chair was occupied by the President, Mr. D. McEachran, M.R.C.V.S.

Mr. John Bond, V.S., of Toronto, was elected a member of the Association.

The first paper read was a communication by Mr. G. SERMON, M.R.C.V.S., on the successful treatment of "Tetanus" by large doses of hydrocyanic acid.

Mr. WM. MURPHY, of Boston, read a paper on Navicular Disease, which was followed by an animated discussion, the PRESIDENT taking occasion to exhibit several pathological specimens, showing the condition of the tendon and bone in this disease.

The VICE-PRESIDENT, Professor Osler, next exhibited some interesting specimens, showing the condition of the lungs in Pneumonia in the dog, and consolidation of the lung in man from the same cause, the pathological anatomy of which he minutely described and illustrated by microscopic demonstrations. He also called the attention of the Association to a species of *strongyli* or *filaria* found in large quantities in the bronchial tubes of a

* This will appear in our next.

dog. These worms, which are often seen in calves and sheep, have not been met with before in the canine species. A beautiful specimen of *ante-mortem* clot in the heart of a dog was also exhibited and its formation explained by the Doctor.

A vote of thanks being passed to the essayists and Professor Osler, the meeting adjourned at 10 p.m.

At next meeting, to be held on the 25th inst., Mr. Lyford was to read a paper on "Elephantiasis," and Mr. Brown a communication on removal of a cartilaginous tumour from the eyelid of a horse.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of the above Society was held at the Blackfriars Hotel, Wednesday, the 20th of December—Mr. John Lawson, President, in the chair. The following gentlemen were present: Messrs. Woods, Bunnell, Howell, Ashworth, Lock, J. Brooks, A. Brooks, Darnell, Hopkin, W. A. Taylor, Mulineux, J. B. Taylor, Ferguson, Whittle, Prescott, Chas. Ogden, Ed. Woolner, Tom Taylor, and the Secretary.

The minutes of the last meeting were read and confirmed.

Letters of excuse were read from Messrs. Welsby, Barnes, Cartwright, Schofield, Elam, Morgan, and Reynolds.

Messrs. Alf. Brooks, of Pilkington, and Thos. Briggs, of Bury, were nominated for election at the next quarterly meeting.

Mr. Hart, of Oldham, proposed by Mr. Dacre and seconded by Mr. Whittle, was elected a member of the Society.

On the Treasurer's accounts being placed before the meeting,

Mr. W. A. TAYLOR moved that the Treasurer's report be adopted.

This was seconded by Mr. WHITTLE, and carried.

Mr. WHITTLE proposed that a final appeal be made to those gentlemen in arrears with their subscriptions, before removing their names from the list of members.

An amendment to the above was made by Mr. W. A. TAYLOR, to the effect that the attention of members (owing above one year's subscription) should be called to an effort that was being made to collect the subscriptions in arrears, and that a book of the rules should be sent with the circular.

Mr. WHITTLE seconded this amendment, and it was unanimously carried.

The election of officers for the ensuing year resulted in Mr. Tedhar Hopkin being placed in the chair; Mr. John Lawson, Ed. Woolner, and Jas. Howell, Vice-Presidents; Mr. Alex. Lawson, Treasurer; and Mr. Dacre, Secretary.

Mr. JAS. HOWELL then read his communication on a case of disease of the palatine and superior maxillary bones in a mare. The morbid specimen Mr. Howell exhibited was of a very interesting character, and led to a diversity of opinion as to the nature of the disease and its origin. It was thought by most of the members to be a case of Osteo-Porosis. The principal symptoms exhibited were "quidding" of the food and slow emaciation.

Mr. W. A. TAYLOR read a short paper on a polypus in the vagina of a bitch, which he had successfully removed with the chain *écraseur*. The tumour measured three inches in length and one inch round, and was situated near the opening of the vagina—part of the polypus being exposed to view.

Mr. TOM TAYLOR proposed that the Society should purchase Mr. Thomp-

son's tooth shears, and that they should be placed in charge of the President for the time being, for the use of the members.

This motion was seconded and carried.

A vote of thanks to the Chairman and retiring officers closed the proceedings.

W. DACRE, *Hon. Sec.*

ROYAL AGRICULTURAL SOCIETY.

AT the monthly meeting on February 7th, Colonel Kingscote reported that the Hon. W. Egerton, M.P., had been elected chairman for 1877. Out of the nine candidates eligible to compete for the Society's veterinary medals and prizes, four presented themselves for examination, and the following was the report of the examiners :—

"We the examiners appointed by the Royal College of Veterinary Surgeons to test the qualifications of the gentlemen eligible to compete for the prizes offered by your Society to members of the Royal College of Veterinary Surgeons for proficiency in the pathology, causes, symptoms and treatment (preventive and curative) of cattle, sheep, and pigs, have the honour to report that we have adjudicated the prizes as below, and we are happy to be able to state that the whole of the candidates acquitted themselves entirely to our satisfaction, especially with respect to the practical examination.

"(Signed) { ROBERT L. HUNT. / THOS. WALLON MAYER. / DAN. GRESSWELL.

"Alex. B. Daniel, Royal Veterinary College, Camden Town—First Prize, £20 and Gold Medal.

"M. C. Yaxley, East Dereham, Norfolk—Second Prize, £10 and Silver Medal.

"F. Smith, Brunswick Villa, Shooter's Hill—Third Prize, £5 and Bronze Medal."

The Committee recommended that £34 13*s.* be paid to the examiners for fees and expenses, that cheques be drawn for the amount of the prizes, and that the Secretary be instructed to have the medals prepared. A letter from one of the examiners in reference to the arrangements for the examination was referred to the Council of the Royal College of Veterinary Surgeons. The Committee moved for a grant not exceeding £250 for veterinary purposes during the year 1877. Mr. Duguid laid before the Committee the following report on the recent outbreak of Cattle Plague :—

"For some time previous to the arrival in this country of a cargo of animals suffering from Cattle Plague, Germany had been what is termed a scheduled country under the Contagious Diseases (Animals) Act, and cattle coming from German ports could only be landed at the respective defined parts of the following ports :—Glasgow, Goole, Grimsby, Hartlepool, Hull, Littlehampton, London, Middlesborough, Newcastle-upon-Tyne, Plymouth, Shields (North), Southampton, and Sunderland, where they were to be slaughtered.

"The first of the recent outbreaks of Cattle Plague in Germany was on the Polish frontier in Upper Silesia. On the 13th January Cattle Plague was discovered at Hamburg, said to have been brought there by infected cattle *viâ* Berlin. On the 12th January, a cargo of forty cattle, already infected, had been shipped for Deptford, and arrived there on the 15th. One had died during the passage, and more died soon after their arrival.

"The Veterinary Department of the Privy Council, previous to the arrival of these animals, had warned the port inspectors to keep careful watch over all importations of German cattle, and at Deptford the inspector detected the disease, and communicated the fact at once to the chief inspector of the Department.

"An order was passed by the Lords of the Council, and published in a supplement of the *London Gazette* of January 16th, by which sheep and goats imported from Germany were placed under the same restrictions as had previously applied to cattle.

"In a letter to the *Times*, dated Hamburg, Jan. 15, it was stated that on Saturday, January 13th, a train of about 100 oxen arrived from Goslar, in the Hartz mountains, for shipment to London. The beasts were found ill by the town veterinary inspector, and on the 14th Rinderpest of an aggravated form broke out among them, so it is said. They have all been killed, and the carcases destroyed. The street in which the stable they were kept in was situated has been cut off from all communication, and a cordon of soldiers placed to guard it.

"A Reuter's telegram, dated Berlin, January 17 (evening), says :—'The *Official Gazette* announces an outbreak of Cattle Plague on the property belonging to the Concordia sugar refinery, near Brieg, in the province of Silesia.'

"On account of the further extension of the disease in Germany, and the possibility that infected cattle might be passed hitherwards through Belgium and France, an Order in Council was passed and published on the 19th January, whereby those countries were placed under the same regulations as Germany—the Governments of Denmark and the Netherlands being at the same time informed that those countries would be brought under the provisions of the Act unless they prohibited the importation and transit of animals from Germany. Subsequently it was considered necessary to make the regulation apply to both Denmark and Holland.

"As soon as Cattle Plague was detected in the cargo of animals that arrived at Deptford on the 15th January, they were isolated, and locked in one detached block of buildings where no one could enter or leave without the sanction of the market superintendent. A wide roadway separated this from any other portion of the market ; in addition to which quantities of quicklime were placed at the different doors, so that any one entering or leaving the premises must walk through it. On the following day the work of slaughter and the destruction of the carcases was commenced. Special men were told off for the purpose, and not allowed to leave the building without changing their clothes ; and a fumigator was at work disinfecting the clothes they had worn while at work. The mode of destroying the carcases adopted was to quarter them and subject them to the prolonged action of steam in a large iron cylinder, until very little of the carcase remained.

"On visiting the market on January 18th, I considered, from the precautions taken, there was no chance of the malady spreading, and that, as had been the case before, in 1872, when cattle affected with Rinderpest were landed at Deptford, the contagion would not spread beyond the market. In the present instance we have been more unfortunate, and Cattle Plague now exists among dairy-cows in the Limehouse district.

"The district inspector being informed by a dairyman of the existence of a rapidly spreading disease among his cows, found on visiting the place that a number of them were suffering from Cattle Plague, and communicated the fact to the Veterinary Department of the Privy Council. The whole of the animals were at once slaughtered, and the destruction of the carcases commenced.

"An Order in Council was issued, and came into operation on February 1st, prohibiting the movement from the Metropolis of cattle, sheep, and goats. A circular letter was also sent advising the local authorities of the fact, at the same time recommending that none but the most efficient inspectors be employed at the present crisis.

"The supplement to the *London Gazette* of Friday, February 2, contained a further Order in Council, to take effect on the 4th, prohibiting the holding of all markets or sales of cattle, sheep, and goats within the Metropolis, except as follows :—

"1. Cattle, sheep, or goats belonging to the owner or occupier of premises not in an infected place may be sold on those premises if they are not affected with Cattle Plague, and have been on those premises not less than twenty-eight days previous to sale.

"2. Markets and sales may be held under the license of the Privy Council.

"The Order also enjoins that cattle, sheep, or goats exposed for sale in a market, the holding of which for the sale of cattle, sheep, and goats for immediate slaughter is licensed by the Privy Council, may be kept alive for a period of ten days, and no longer, and that the owner, consignee, or other person exposing in a licensed market cattle, sheep, or goats, shall, at his own expense, mark them as follows :—Cattle—by clipping the hair off at the end of the tail, and by clipping a broad arrow, about five inches long, on the left quarter. Sheep and goats—by clipping a broad arrow on the forehead.

"Up to the evening of February 5th the disease had appeared in five dairies in the Limehouse district, but no cases had appeared in the Metropolitan Cattle Market."

Colonel KINGSCOTE having moved the adoption of this report, the President asked Professor Brown to favour the Council with a statement in reference to the recent outbreak of Cattle Plague.

Professor BROWN thereupon stated that, on the 16th of January 39 animals had arrived from Hamburg in the *Castor*, and were landed at the Deptford foreign cattle market, a place which was particularly adapted for its purpose—viz., for the reception and slaughter, within its limits, of cattle arriving from scheduled foreign countries. No difficulty was experienced there in dealing with these cattle. Those that did not die with the disease were killed, and all the carcases were put in iron digesters, and subjected to steam at a temperature of 400 degrees ; and there was every reason to believe that the disease would not extend beyond the confines of the place in which these cattle had been received. However, on January 29th, a disease of a suspicious nature was discovered in a dairy at Limehouse, and when he inspected the animals on Wednesday, 31st, at noon, he had no doubt that this was an outbreak of Cattle Plague. In less than four hours from the fact being established, an order was issued by the Government prohibiting the movement of cattle and sheep out of the Metropolis. Since then, up to last night (Feb. 6), Cattle Plague had manifested itself in seven other dairies, all within a limited district, bounded by the Limehouse canal, the river Thames, and the river Lea, and therefore, in fact, forming a kind of island. Since the order just mentioned was issued, others had been enacted with a view of stopping sales in the various lairs and markets of the Metropolis except by special license. The metropolitan market at Islington and the Deptford foreign market had been licensed for the purpose of such sales, and it was not contemplated at present to license any other places for the sale of sheep or cattle within the metropolitan area. All animals sold at the Metropolitan Market would be marked for immediate slaughter, and all animals landed at Deptford were slaughtered within the limits of the market. The Government

had received the usual complaints from persons interested in the trade ; but they had firmly determined not to allow of any relaxation of the regulations which they had found it necessary to impose with a view of preventing the spread of Cattle Plague into the country.

Earl SPENCER expressed his faith in the skill and experience of Professor Brown, and his satisfaction at the steps which had been taken by the Veterinary Department in stopping the exit of cattle out of the London area, and restricting the markets at which cattle could be sold within that area. The powers of the Privy Council appeared to be sufficient to enable them to take measures that were necessary ; but it was important that every local authority should take time by the forelock, with a view to the immediate detection of disease in their districts, should it appear. He would be glad to hear what the local authorities in the various districts had already done. In the circular which had been issued by the Veterinary Department, a most serious announcement had been made—viz., that there was reason to fear that some infected animals had gone out of London before the cordon had been drawn, and he would like to have some explanation as to that statement. He trusted that every member of the Council would go back determined to obtain such regulations being enacted in his district as would enable them to detect at once any outbreak of Cattle Plague. If any special steps were necessary, the local authorities ought to be informed of them, and great weight would attach to any representation which might be made by the Council of the Royal Agricultural Society of England.

Mr. DENT expressed his satisfaction at seeing Professor Brown at the head of the Veterinary Department of the Privy Council, and eulogised the promptness and determination which had been shown in dealing with this outbreak of Cattle Plague. As chairman of the Cattle Plague Committee of the West Riding of Yorkshire, he had, on receipt of the circular issued by the Veterinary Department, summoned a meeting, which would take place the next day, and he trusted that they would take steps with a view to the detection of disease and the prevention of its extension, should it break out, identical with those which were adopted during the last outbreak.

In reply to Mr. MARTIN,

Professor BROWN stated with reference to the remark in the late circular —that there was reason to fear that some infected animals had gone from London into the country—the suspicion which he then had had not been confirmed. The principle on which he acted was, that the slightest rumour required to be considered, judging from the facts relating to the last outbreak, when the Plague had been six weeks in the East Riding of Yorkshire before its existence became known. As regards this outbreak, he, on learning the existence of Cattle Plague in Germany, immediately telegraphed to every inspector on the coast, and that action contributed to the immediate detection of the disease at Deptford market. Soon afterwards he ascertained that some animals had been removed from a shed in the metropolitan area, whereupon he sent to every inspector in the country. However, the man from whose shed these cattle had gone had no trace of disease on his premises ; and it appeared that they were fat cattle sent, *bonâ fide*, in the ordinary course of trade.

He wished to suggest to the Council that although under these circumstances the alarm might be false, it was far better to give it than that ignorance of the existence of the disease should exist for a moment. He trusted that farmers would be cautious not to get manure from the metropolitan district. Some manure from Limehouse had, he had ascertained, been sent to the neighbourhood of Barking Creek ; but the manure had been found, and steps had been taken that it should not be removed, and that it should be so dealt with

as to provide against any danger arising from it. He proposed still to go on with the system which had been inaugurated, and to give every information possible to the public through the local authorities.

Mr. BOWEN JONES thought they had heard a very instructive statement from Professor Brown, but it seemed to prove that the powers possessed by the Privy Council were not sufficient for the purpose; and although he had great faith in the judgment and resolution of the Professor, he thought it was the duty of the Council to try and insist upon more stringent regulations being adopted, both in the kingdom itself and with regard to the importation of foreign cattle. The insidious nature of Cattle Plague was perfectly appalling to stock-owners, and in face of the new system of importing dead meat from America, he thought they might justly insist, with regard to the importation of foreign cattle, that they should be slaughtered either at the port of landing or debarkation.

Mr. BOOTH, as one of those most interested in the cattle trade, agreed with Mr. Bowen Jones. He feared that there were very lax methods of inspection on the Continent, and he understood that the owner of these infected animals had telegraphed to his agent to slaughter them immediately after arrival. He thought that further steps were necessary to be taken in order to prevent the importation of diseases, and he trusted that the Council would memorialise the Government to stop the importation of live stock from all European parts.

Professor BROWN explained that according to the existing law all animals from scheduled countries are now slaughtered at the port of landing, but the existence of Cattle Plague at Limehouse proved that this was not sufficient to prevent the escape of disease from the defined part of the port. He had obtained from the master of the *Castor* the certificate of the Government Inspector, dated January 12th, certifying that the particular animals which arrived here infected with Cattle Plague were free from disease when inspected, although at that very moment some of them must have been dying of Rinderpest. One of them actually died on the passage, and twenty-seven out of the remaining thirty-nine died at Deptford before the slaughtermen could their work. He had ascertained that some animals from the same man's stables, at Hamburg, including some sheep, had been landed at Hull, but as Foot-and-mouth disease had broken out amongst the sheep, they were all slaughtered, and all but two cattle had likewise been slaughtered in Hull. Those two went to the neighbourhood of Wakefield, but no trace of disease had been ascertained to exist in that neighbourhood, notwithstanding most careful inquiries.

In reply to Mr. TORR, M.P., as to what had been done with the ship that brought the diseased animals,

Professor BROWN said that the ship went from Deptford to the wharf belonging to her owners. Afterwards, when the Cattle Plague had been discovered, the Veterinary Department caused the vessel to be disinfected under the inspection of one of their own officers. The Department had no power to prevent the ship from being immediately used again for the carrying of cattle, but the owners had voluntarily guaranteed not to use it for that purpose for another month. One difficulty, no doubt, is that the ship, after landing an infected cargo, may go to another wharf, and the infection may be distributed by means of the manure of the animals, as well as by the passengers and crew.

Mr. RANDELL stated that, in his judgment, the more they heard the more hopeless their condition appeared to be, without more stringent regulations. He thought the time had come to speak with no uncertain voice to the Government. All fat animals ought to be slaughtered at the port of landing,

and an efficient quarantine of all store animals ought to be enforced. The difficulty which was formerly feared that would attend the transporting of carcases had disappeared now that dead meat could be imported from America, and the Aberdeenshire farmers had for years found no difficulty in carrying on a dead meat trade with London. The English farmers did not fear the importation of carcases, but they did fear the danger of importing foreign diseases.

Mr. JACOB WILSON remarked that Professor Brown's reply to Mr. Torr made the matter more serious than it had appeared before, and he thought that Mr. Randell did not go far enough by stipulating for killing fat animals on this side of the water. He would kill all fat cattle on the other side—at any rate, as a temporary measure.

Mr. BOWEN JONES, to bring the matter to a practical issue, then moved the following resolution :—

"That a memorial be presented by this Council to the Government, impressing upon it the necessity of prohibiting the importation of foreign live cattle to this country, as a temporary measure ; and that uniform and compulsory measures shall be enforced throughout the kingdom for the suppression of contagious diseases in cattle."

Mr. DENT considered that store cattle were as dangerous vehicles for conveying disease as fat cattle ; and that quarantine stations were hotbeds of disease. He was not, however, prepared to vote for any such interference with the trade as Mr. Bowen Jones proposed.

Mr. BOOTH seconded Mr. Jones' resolution.

Earl SPENCER asked the Council to consider whether it was desirable to pass any resolution at the present moment. For himself, he had complete faith in the powers which the Government possessed, and if the Council passed such a resolution as that before them it would look like wishing to legislate in a panic, before we know whether the means already in our possession are sufficient for the purpose. He would move, as an amendment, that the question be postponed until the next meeting of the Council.

Mr. DENT seconded the amendment. In his opinion the Government had acted very promptly, and he trusted that the Council would not give a hasty vote. There was a consensus of opinion that there was danger in the foreign cattle trade, but the proposed remedy of importing dead meat had not yet been tried for very long—in fact, the American trade had only existed during the winter months. The previous outbreak of Cattle Plague in the East Riding of Yorkshire had been quickly suppressed, and this present outbreak had not yet gone beyond the metropolitan area. Therefore he would prefer to postpone coming to any decision until the next meeting.

Earl FEVERSHAM stated that it would be little consolation to those who might lose their cattle to be told that on previous occasions the outbreaks had been suppressed. He was of opinion that the precautions and regulations which had been taken were not sufficient, and that more stringent measures were necessary. He agreed with Mr. Bowen Jones that the Government ought to prohibit the trade in cattle from foreign countries.

Colonel KINGSCOTE was of opinion that delays are dangerous. The disease in question was the most insidious of all contagious cattle diseases. The Government had already done its utmost to prevent its extension, and as Parliament was about to meet, if the Government wanted more powers the Council would strengthen their hands in applying to Parliament for them, by passing a resolution at once instead of waiting for another month.

Professor BROWN stated that the Government had already prohibited the importation of live animals, and also of dead meat, from countries in which Cattle Plague existed, or in which it may be likely to appear. If the Council

asked the Lord President of the Privy Council to prohibit importation from all foreign countries, he was quite sure that the Council would meet with a negative reply. The subject was a very large one, and could not be adequately discussed in the short time at the disposal of the Council; but he might mention as an example that Denmark and Holland had in force the most stringent regulations, in accordance with an international agreement, chiefly with a view to protect themselves. They did not allow any ruminating animal whatever to pass their frontiers, either dead or alive, and not even a cat or a dog could go into those countries without being first disinfected. Therefore there seemed no reason why importation from such countries should be prohibited, and the prohibition of foreign importation as a whole was quite impossible. With regard to Belgium and Germany, that prohibition had already been made, and not only live cattle, but also flesh, hides, hoofs, hay, and other articles, were prohibited from being landed in England, while the Custom-house officers would not even allow the importation of bones from the countries mentioned. If an outbreak of Cattle Plague should occur in any of the countries not already scheduled, our consuls were on the alert, and immediate information would be forwarded, and the Government would then prohibit all importation from such countries.

Mr. TORR urged the necessity of unanimity on the Council. With that view he suggested that any representation would have much more force if made in the event of an increase of the present outbreak, as they could truly say they had at first forborne to press the Government in view of the measures already taken by them, but that in face of the extension of the disease, they felt it necessary to unanimously urge certain measures upon the Government. Such a memorial would, no doubt, have far greater force than one sent now by a divided Council.

Mr. RANDELL having supported Mr. Torr in this view,

The Earl of LICHFIELD expressed the hope that there would be no division on the Council. No member of the Council had expected that so important a resolution would have come before it; and although he could imagine that circumstances might arise to justify it, yet, to his mind, the Government had already adopted as stringent regulations as were possible under the circumstances.

Mr. BOWEN JONES then withdrew his resolution for the present, stating that he did so chiefly in consequence of the explanations which had been given by Professor Brown, and that he hoped that owing to the great importance of the matter it would continue to receive the most anxious attention of that gentleman and other officers of the Privy Council.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

AT the general meeting of this Society, held at Edinburgh on January 17th, Captain TOD, of Howden, said: "It will be in the recollection of those who attended the general meeting in June last, that on that occasion I reported that a deputation from the Society had waited, on the 24th of May, on the Lord President, at the Privy Council Office, for the purpose of supporting a petition for a charter to the Society empowering it to grant veterinary diplomas. I regret that I have now to intimate that the prayer of the society's petition has been refused. The letter from the Privy Council Office is in the following terms:—

"'Privy Council Office, 12*th December*, 1876.

"'MY LORD,—I am directed by the Lord President of the Council to inform you that the Lords of the Council have given their careful considera-

tion to the petition of the Highland and Agricultural Society of Scotland, praying for the grant of a supplemental charter; and I am instructed to state that their lordships have felt it their duty to advise Her Majesty not to comply with the prayer of the petitioners. I have the honour to be, my lord, your lordship's obedient servant,

(Signed) "'C. L. PEEL.

"'The Earl of Strathmore, Vice-President,
"'Highland and Agricultural Society of Scotland.'

"This communication was before the directors on Wednesday last, when it was remitted for the consideration of the Society's Veterinary Committee. It is not for me to say what further steps the committee may recommend, or the directors adopt, but I may venture to state that I consider the Society is in a manner bound, in the meantime, to continue the examinations."

The Duke of BUCCLEUCH remarked that it seemed the officials in London were so convinced of the efficiency of the college there that no Edinburgh rival could be tolerated.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

AT a meeting of this Society, held on November 9th, 1876, Mr. Henry E. Armstrong, Medical Officer of Health, exhibited the following pathological specimens :—

1. Heart, showing hæmorrhagic sub-peri- and endo-cardial infiltration.
2. Portion of black, engorged, and disorganised spleen.
3. Two specimens of pyloric extremity of fourth stomach, showing congestion of mucous membrane and submucous hæmorrhagic infiltration in spots and patches.
4. Two portions of duodenum, showing submucous hæmorrhagic infiltration.
5. Blood, drawn after death.

He then read the following paper on "An Outbreak of Anthrax in Newcastle-upon-Tyne":—

"The subject of this paper is the appearance of a disease which, so far as I have been able to ascertain, was, before the present outbreak, unknown in Newcastle either in man or among the lower animals; but which has during the past fortnight been fatally prevalent in certain cow-byres and stables in the borough, and has probably caused the death of a human being.

"For the diagnosis of the first recognised case, as well as for much other important information and assistance connected with this outbreak, I am indebted to Messrs. Stephenson and Elphick, veterinary surgeons."

Before entering on an account of the cases, he drew attention to the three divisions of Charbon as made by Chabert, and added that it was with the third division—*i.e.*, *Charbonous or Splenic Fever*—that he had to do; and the manner in which the cases came under observation was as follows :—"On the 27th of October last, I was called by the Meat Inspector to give an opinion as to the fitness for food of the flesh of a cow reported to have been slaughtered to save the carcase, in consequence of sudden illness from overfeeding. The carcase was that of an animal in good condition. The flesh had the characters of good lean and fat beef. The only unusual circumstance noted was that the bloodvessels were not empty, as is usual in the dressed carcase—the lean being rather darker in consequence. This the owner accounted for by saying that the animal had not been properly bled. The first stomach was full of food, and digestion had evidently been going on. Although there was no evidence of poison, the stomachs and their contents

were examined ; but without finding anything to account for sudden death, beyond what was stated by the owner (who may be called A),—namely, that the animal had been overfed, which appeared to be borne out by the appearance of the flesh and condition of the stomachs. Altogether there appeared to me no proof, which could be laid before a magistrate, that the carcase was unfit for food ; and it was accordingly passed.

"On the 28th, the greater part of a second carcase of beef in possession of a butcher in the market was seized and destroyed by magistrates' order as unfit for food. It was stated that this carcase was that of a cow from the same byre as the foregoing, that had accidentally hanged herself in the stall.

"On the 30th of October, I was called to a slaughterhouse to examine a dressed carcase of beef belonging to one who may be named B. B stated that three cows in his byre had taken ill, and that the first of these had died very suddenly, and had been removed to the knacker's yard ; the second he had killed on the second day of disease, to save the carcase, which I was then asked to inspect. The third cow was also slaughtered, but was not yet removed from the byre.

"B believed his cattle had been poisoned, and blamed the hay, which was stated to be of the same kind as A was giving to his cows.

"Before giving an opinion on the fitness for food of the flesh, which was that of a well-conditioned animal, I consulted Messrs. Stephenson and Elphick, who considered the case to be one of Charbonous or Splenic Fever, or, as it is also termed, Splenic Apoplexy, and described the *post-mortem* appearances, which we then proceeded to look for, and found as follows :—

"The flesh was firm, though rather dark. The bloodvessels were loaded with dark blood ; patches and points of ecchymosis appeared on the peritoneum and pleura, and also in the areolar tissue and on the surface of and between the muscles. The pillars of the diaphragm were generally darker than normal, and in places livid, with air vesicles appearing between the muscular fibres. The mucous membrane of the fourth stomach was congested, and at the pyloric extremity (specimen exhibited) was studded with points of ecchymosis resembling petechiæ. The heart (exhibited) presented the following abnormal conditions : The left ventricle was empty ; the inner surface was extensively ecchymosed, very little of it being unchanged. The ecchymoses varied from deep-red to almost black in colour, raising the endocardium longitudinally, and presented the appearance of streaks of clotted blood upon the serous membrane, but could not be detached. The outer surface of the left auricular appendage was spotted with ecchymosis of various depths of colour, most numerous at the free extremity. Several patches and spots of subserous extravasation were noted on the inner surface of the auricle. Much of the epicardium appeared bluish in hue, from ecchymosis. The right ventricle and right auricle were somewhat similar in point of abnormality to the auricle and ventricle of the left side. Several spots of ecchymoses were observed at the base of the heart and on the surface of the great vessels. The spleen was asked for, but had been removed. The blood was everywhere dark and liquid.

"The carcase was condemned.

"On the same day I learned that a third cowkeeper (who may be called C) had been obliged to kill one of his cows on account of a supposed turnip in its throat. I was asked to inspect the carcase,—which I did, and found no turnip, but instead, pathological appearances like those described in the foregoing case. The spleen (part of which was exhibited) also was about three times its normal size, mottled and livid on its external surface, soft and disorganised internally, and distended with tarry-looking blood. The viscera

were marked with spots and patches of ecchymosis. Inquiry as to the food on which C's cattle had been fed elicited that the hay had come from the same place as A and B had got theirs from. The carcase was condemned, and C was advised to get some fresh hay, but did not do so ; the result was that two other cows and a pony fell ill of the disease and died, each after a few hours' illness.

"On November 2nd, a cow, belonging to a milkman (D), was reported as having died after twenty-four hours' illness. The body had been removed to the knacker's yard. D stated that his cow had first shown symptoms of ailment by refusing food, had afterwards seemed in pain, and voided a quantity of black blood per rectum. Exhaustion and death supervened rapidly. At the *post-mortem* examination the intestines were found congested everywhere, and in many places almost black, and containing large quantities of dark liquid blood. The spleen was greatly enlarged, mottled externally, broken down, and distended with dark, tarry-looking blood. The hay on which D had fed his cow closely resembled that of A, B, and C. It was ascertained that this hay had been bought in a small quantity from a retail dealer in the market. Further inquiry has shown that in all probability the hay was of the same kind as the others.

"On the same day (November 2nd), notice was received that another person (E) had lost a cow and a horse—the former after six, the latter after ten hours' illness. Each was reported to have had a severe attack of convulsions shortly before death. The *post-mortem* appearances of the blood and tissues corresponded to those of the cases already described. It was ascertained that the cow and horse of E had been fed on the same kind of hay as the others.

"In addition to these cases there have been others in the town. In all, at the present time (November 8th), twelve cows and three horses have died in Newcastle from this disease. The pony belonging to C was affected in the throat with a form of Charbon termed Glosso-Anthrax. *Post-mortem* examination showed extensive exudation of greenish coagulable lymph near the base of the tongue and round the gullet and windpipe. The abnormal appearances observed at the *post-mortem* examinations of the cattle were also present.

"One horse, also affected in the throat, and presumably from the same disease, is still ill. This is, I believe, the only case in the borough that has not terminated fatally, either from the disease or by the hand of the slaughterer.

"Among the *post-mortem* appearances of cattle and horses affected in this outbreak, the most frequently noted or most striking have been—bloody discharge from the nostrils, rectum, vagina, etc. ; extensive hæmorrhagic infiltration into the areolar tissues and serous cavities, especially the peritoneum, less often into the pleura and pericardium ; marked engorgement and enlargement of the spleen, with breaking down of its tissue ; ecchymosis and petechia-like spotting of the epi- and endo-cardium (especially the latter), pyloric extremity of the fourth stomach, and surface of the external muscles ; congestion of the mucous membrane of the fourth stomach and small intestines ; loading of the intestinal canal with liquid blood ; almost emptiness of the cavities of the heart, with flabbiness of its muscular tissue ; rapid decomposition of the tissues—the lungs, heart, and viscera, in some cases, becoming green and smelling offensively whilst still warm and steaming ; hypostatic congestion of the tissues ; and, lastly, the unusual condition of the blood itself, on which these abnormal appearances depend. One peculiarity of the blood always present in the cases examined was in its fluidity. his seemed to be greater in some parts of the

body than others. Thus in one cow the left ventricle of the heart contained about two drachms of thin watery-looking blood; in all the cases, that in the heart was very liquid, whilst that in the spleen was thick, and there was everywhere an almost entire absence of coagulation.

"Another peculiarity of the blood was its colour, which was for the most part a purplish-chocolate, but in the heart and other parts, where more fluid, it was of a dull smoky red, whilst where thicker, as in the spleen, it was darker and more tarry-looking.

"A third and characteristic peculiarity of the blood of this disease, and one noted in a sample drawn shortly after the death from one of the cows, is the presence of certain specific bacteria; in other samples of blood examined these specific organisms were not observed, probably from commencing decomposition."

Reference was then made to Dr. Sanderson's allusion to the bacteria often found in the blood. (See the *Veterinary Journal* for November, 1876, p. 367.)

"The symptoms in horses and cattle, during the outbreak, were somewhat as follows: The animals refused food, were feeble on their legs, and could not hold up their heads, had bristling coats and dull eyes. Some were restless, uneasily whisking their tails and twitching their limbs; others moaned, and appeared to have colicky pains; some passed bloody dung and urine; in two horses the throat was swelled. In all there was rapid collapse, and in at least two—a horse and a cow—violent convulsions immediately preceded the fatal issue."

Alluding to the transmission of the disease, he said: "Accounts of Splenic Fever *in man* have hitherto, I believe, all been given by Continental writers.* The case I am about to describe, although unfortunatel not verified by *post-mortem* examination, corresponds so closely in history and symptoms to the cases—human as well as animal—already given, that I think there is reason for considering it one of Splenic Fever in man. For the details I am indebted partly to Mr. May, the surgeon in attendance, and partly to the relatives whom, with Mr. May's concurrence, I interrogated after the death of the patient.

"The patient, a butcher, after having dressed one of the diseased carcases, was taken ill with excessive vomiting and purging. He had previously complained of pain in the loins, and appears to have had a presentiment of impending death. On the morning of Tuesday, October 31st, he was so unwell as to be unable to attend to business at the weekly cattle market. Mr. May was asked to prescribe for his vomiting and diarrhœa on Wednesday evening, and visited him for the first time on Thursday morning, when the diarrhœa had ceased, and the patient thought himself a little better. In the afternoon of the same day the patient had a convulsive fit, in which he died. After death, the thumb was observed to be turned towards the palm. The extremities and other parts of the body are said to have turned black, and there was oozing of blood from the nostrils. The deceased does not appear to have wounded himself in dressing the diseased carcase. The friends thought his illness and death were the result of a fall he had had a week or two before, but of this there was no evidence. *Post-mortem* examination was not permitted.

"This outbreak of Charbon is closely connected with the use of some coarse, reedy-looking hay grown on marshy ground at a farm in the country where the disease had been prevalent about the beginning of the present year.

* This is scarcely correct. A large number are to be found in English medical literature.—Ed. *V. J.*

Although brought to market at many different times, and sold sometimes in small quantities not booked, and occasionally re-sold, we have with care been able to trace a positive connection between the eating of this hay and the appearance of the disease in all the animals affected except two, and in these two the case against the hay is almost proved.

"Continental writers recognise the influence of morasses and stagnant water and forage tainted with decomposing organic matter as among the chief causes of Charbon. What was the original cause of the disease on the farm, I am not at present prepared to say."

Dr. EMBLETON asked as to the *post-mortem* appearance of the liver and skin of the animals that had died from Charbonous Fever, and whether any analysis of the tissues had been made. He said that much valuable information as to the disease was to be obtained from the French dictionaries of medicine. He suggested that Mr. Armstrong be asked to report to the next meeting of the Society any further particulars that might occur with regard to the present outbreak.

Dr. MCDIARMID asked whether the cattle affected showed any abdominal distension.

Mr. SPEAR asked if precaution had been taken to prevent the sale of the meat for human food, and spoke of the probable effects of the consumption of the flesh on the human frame. He inquired whether there were any history of inoculation, and alluded to the supposed connection between Ague and Charbon in certain marshy districts.

Dr. NEWCOMBE asked if the disease had been observed in any of the American beef which had lately been sold in Newcastle.

Dr. MACLACHLAN inquired as to the effect on human beings of drinking the milk of cattle so affected, and wished to know if means had been taken to prevent its sale.

Mr. ARMSTRONG thanked Dr. Embleton for the suggestion as to the French literature of the subject, and also said that the *post-mortem* condition of the livers of the cattle and horses he had examined was not striking ; the surface of the organ was occasionally mottled, and the substance somewhat congested hypostatically. The external surface of the skin, so far as could be observed, showed little departure from the normal state. The areolar tissue was, however, almost everywhere largely infiltrated with blood. The speaker had been informed that the owner of the farm referred to in the paper, suspecting poison, had had analyses made of the viscera and the contents of the stomach, but without finding anything to justify his suspicion. With regard to the question of Dr. McDiarmid, distension of the abdomen, from gas in the intestines, was usually present, and occasionally to a considerable degree. In reply to Mr. Spear, precaution had been, and would continue to be, taken that the flesh should not be sold for human food. There was no history of inoculation in the cases detailed in the paper—the disease in the quadrupeds being supposed to be entirely due to the matters taken into the stomach. Cases of Charbon, after inoculation, would show signs of external local affection during life—as, *e.g.*, Malignant Pustule. Splenic Fever was the same as Braxy in sheep, a disease common in Scotland, where the flesh of the affected animals is said to be eaten with impunity. Other names for the localised form of the disorder were—Black-leg, Black-quarter, Quarter-ill, etc. As regarded the death of the butcher after dressing the diseased carcase, the woman who had "laid out" the body had afterwards taken ill, with symptoms similar to those the deceased had suffered from, and which she attributed to contagion ; she was now recovering. In reply to Dr. Newcombe, the American beef was in no way connected with the present outbreak. The speaker had purchased some of this beef when it was first introduced into

town, and had found it of as good quality as any that could be put upon the table. In reply to Dr. Maclachlan, the milk of animals suffering from Charbonous Fever was unfit for food, and was likely to produce the same disease in the consumer. The cowkeepers had been cautioned, and there was no reason to suppose that any risk to human beings had been incurred through the distribution of milk so diseased.

The PRESIDENT requested that Mr. Armstrong would report any extension of, or other information as to, the disease at the next meeting of the Society.*

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

AT a meeting held on December 12th, 1876, Dr. Forrest gave a history of a case of Hydrophobia, which occurred in his practice, and which he subsequently placed under the care of Dr. Dunlop, in the surgical wards of the Royal Infirmary. The patient was an engineer, aged forty, who had been bitten on the right thumb by a retriever bitch. From inquiries which Dr. Forrest made, it was clear that the bitch had been vicious, and that she was rabid at the time that she bit her master. She had a litter of pups ; one of these was bitten, and it, too, showed signs of Rabies before it died. The patient was bitten on July 22nd, 1876; and the wound, which had been freely cauterised with nitrate of silver, healed up, but re-opened just before the symptoms began to show themselves on September 24th. In the interval between the bite and the first symptoms of the malady, he read in the newspapers the account of the case of Hydrophobia in Falkirk, and that upset him very much. *It was never off his mind.* The symptoms began by an itching in the wound and uneasy tingling sensations, which extended up his arm to his neck and head. These continued for a day or two, when he became excited, frightened, and talkative, more especially as he discovered that he could not swallow liquids without some difficulty. On September 27th he was admitted into the Infirmary, where he died on October 1st from exhaustion. For several days he was in a condition of acute mania, and for the greater part of the time was kept under the influence of chloroform. Ice to the head and neck, chloral, and bromide of potassium in large doses, had no effect upon the disease. Dr. Foulis stated that the *post-mortem* examination of the nerve-centres failed to show the nuclear proliferation described by authors in the sheaths of the vessels. He inferred, therefore, that this lesion (which was found in some sections by Dr. Coats) was a very scattered one, and that it affected only a few of the vessels. Dr. Patterson related details of a case of Hydrophobia which was under his care in the Western Infirmary. Dr. Coats spoke of the *post-mortem* appearances, which were, to the naked eye, quite negative. On microscopic examination, however, he found a number of groups of inflammatory cells in the sheaths of bloodvessels, both in the nerve-centres and near the seat of the scar of the bite. These groups of cells he looked on as effused from the bloodvessels into the tunica adventitia, and even into the surrounding tissue. Some of the ganglion-cells in the nerve-centres were padded round with similar groups of cells. He thought there was here evidence of irritation in the scar, and from it to all parts of the body *per* the bloodvessels. The lesion was, therefore, a vascular lesion ; and not, as in Tetanus, where inflammatory traces had been noticed in the course of the nerves, a nervous

* Mr. C. Stephenson, M.R.C.V.S., Newcastle-on-Tyne, informs us that three more cases have occurred in a cowshed containing six cows—the three dying within twenty-four hours. In this instance, not the hay, but turnips were blamed, they having been brought from a farm where the disease prevailed.—ED. *V. J.*

lesion. The examination did not extend to the whole of the tissues of the body; and it was, therefore, only possible to infer that the lesion affected other organs besides the nerve-centres and the vicinity of the scar; but observers had recorded similar perivascular lesions in the liver and in the salivary glands (Klebs), etc. It might be argued that, the lesion being generalised, it could be of no local importance; but the same thing was seen in Tuberculosis, where a generalised lesion produced specially marked nervous symptoms as soon as it attacked the sensitive nerve-centres. The period of latency was another point of analogy to the case of tubercle, which often lay localised for years, and then suddenly developed itself as a general lesion. The generalised nature of the lesion explained to Dr. Coats's mind the varying symptoms of the disease—the mania from affection of the cortex, the hyperæsthesia and spasm from affection of the central parts of the brain, the hyperæsthesia and heightened reflex action over the surface of the body from the implication of the peripheral vessels.

Jurisprudence.

SELLING A GLANDERED HORSE AT WOLVERHAMPTON.

At the Wolverhampton County Court, on Monday, Jan. 22nd, before A. Martineau, Esq., Judge, an action was brought by Mr. Richard Pullen, of the Standiford Mill, Stafford Road, near Wolverhampton, to recover the sum of £50, as damages, from Mr. Samuel Stanford, horse-dealer, of Piper's Row, in the same town, for loss sustained through a breach of warranty given with a horse that was alleged to have been suffering from Glanders in the primary stage at the date of sale.

Mr. Joseph Underhill, of the Oxford Circuit (instructed by Mr. T. Gatis, of Wolverhampton), appeared for the plaintiff, and Mr. J. E. Underhill (of the firm of Messrs. H. and J. E. Underhill, of the same town), was for the defendant.

Mr. Joseph Underhill, in stating the case for the plaintiff, said the action was brought to recover £50 for damages for a breach of warranty. The original claim was for £55, but as that amount would have placed the case beyond the jurisdiction of this Court, the claim was reduced to £50. The facts of the case were very peculiar. Although the warranty was given on Dec. 14th, 1875, and its breach was discovered early in the past year, the animal for which it was given did not come to an end until the close of that year. The plaintiff was Mr. Pullen, a miller, who farmed his own land at Standiford, and the defendant was a publican and a horse-dealer, living in Piper's Row, Wolverhampton. On the 14th of December, 1875, Mr. Pullen came to Wolverhampton for the purpose of buying a cart-horse at Messrs. Sollom and Barnett's Horse Repository. He was unable to meet with one to suit him at that sale, and, shortly afterwards, saw the defendant, who recommended him to look over his own stock in the stables, and said he would probably find an animal that would suit him. He accordingly did so, and there found a fine, good-looking grey cart-mare. Mr. Stanford said she was a useful mare, was "sound, free from vice, and a good worker." However, he (Mr. Underhill) should not go into the two last-mentioned qualities, as the whole question at issue turned upon the mare's soundness. Mr. Pullen thought the mare would suit him, and he agreed to purchase her for £55. He had the mare taken away the same night, and the next day he called on

Mr. Stanford and handed him a cheque for £50. On that occasion Mr. Stanford was very desirous of avoiding further conversation ; he did not say anything then about the mare's soundness, but soon disappeared, leaving Mr. Pullen in his (defendant's) own house. The next day plaintiff's waggoner perceived that the mare was running at the nose. A few days afterwards he was with her in Wolverhampton, and whilst stopping opposite Messrs. Savage's malt-house, in Cleveland Street, a person of the name of Price, who came up, made a communication to Mr. Pullen's waggoner, which was sufficiently startling to induce him to tell his master without delay. On the mare arriving home, Mr. Pullen and his men made a minute examination of her, and found there was "a running" from her nostrils, which indicated that she was suffering from some disease. Mr. Pullen then came to Wolverhampton and saw the defendant, to whom he gave information about the mare's running at the nose. The defendant said, "There was nothing the matter with her except a little cold," adding that "she was perfectly sound, and all that she wanted was a little medicine." Mr. Pullen being desirous of exchanging the mare, asked Mr. Stanford to take her back again, but the defendant said she was a good worker, and induced the plaintiff to keep her. The running at the nose got worse, and shortly afterwards Mr. Pullen again saw the defendant and told him of that fact. Defendant advised Mr. Pullen to "turn out" and also to blister the mare ; he did so, but still she got worse, and to Mr. Pullen's surprise she gave birth to a fine colt early in March last. He had had no previous intimation that she was in foal, and although the colt was a fine, strong-looking animal, it died in eighteen hours after being foaled. It received no injury at the birth, but died from Glanders, the disease from which the mare in question was then suffering. In May last Mr. Pullen again saw the defendant about the mare, as she did not get better. Mr. Stanford, however, did not accept his offer to take the mare back again. In September last the defendant held out some hopes of meeting Mr. Pullen's wishes by saying he had better go and look over his stock and see if another animal would suit him. The plaintiff said he wished to dispose of the mare, as he would be liable for sending her out whilst she was suffering from Glanders. They then agreed to call in a veterinary surgeon to examine her, and Mr. H. D. Pritchard, the first veterinary surgeon whom they met with, was called in in September last. That gentleman examined the mare, and found that she was suffering at the time from what he thought a curable disease. The mare was subsequently seen by that gentleman's father, Mr. Richard Pritchard, and the two were agreed as to the disease being Glanders. However, although the mare was "doctored," she continued to get worse, and M. Beddard, another veterinary surgeon, was called in. He had some doubt as to the particular disease from which the mare was suffering, but as a test he suggested that a pony should be inoculated from the mare. A condemned pony was then procured, and was inoculated in "the thigh" from the mare, and, very singular to say, the pony died seven days afterwards. Messrs. Cartwright and Hill, veterinary surgeons, were also called in to examine the mare, and they advised that she should be destroyed. Before this advice was acted upon, notice to that effect was given to the defendant, and the mare was destroyed just twelve months after she was purchased. A *post-mortem* examination of the carcase was made, when it was discovered that she had been suffering from Chronic Glanders, and it was asserted that the defendant must have suspected at the time he sold her that she was so suffering, because he had her from the stables of the Shropshire Union Company, where there were several horses suffering from Glanders in November and December, 1875.

The plaintiff was then called, and confirmed the learned counsel's statements. He denied that he ever offered to sell the mare and then changed his

mind because she would spoil his team. If Mr. Stanford had offered to take her back, he should have been very glad to have let him have her, even at a sacrifice. Mr. J. Pullen, son of the plaintiff, also gave corroborative evidence, and William Price spoke to seeing the mare running at the nose several days after the plaintiff purchased her. He said he knew nothing about the Company having glandered horses in December, 1875.

Mr. Brock, a qualified assistant to Messrs. Cartwright and Hill, said the Shropshire Union Company had two horses suffering from Glanders in November and December, 1875. He also spoke to the mare in question having suffered from the same disease for some time previous to her destruction, but was not of opinion that she had been glandered twelve months.

Mr. J. W. Hill, a member of the Royal College of Veterinary Surgeons, was then called for the plaintiff. He stated that he was practising with Mr. H. J. Cartwright, in Wolverhampton. He described the result of the *post-mortem* examination which he made of the carcase of the mare. In the first place, he found that the nasal membranes exhibited the characteristic condition of Chronic Glanders, being of a dull leaden colour, and thickened in substance, with a cicatrix here and there of a healed ulcer. He next examined the lungs, and found they were full of yellow miliary tubercles. The yellow tubercle was what was termed fatty degeneration of the grey tubercle. They, therefore, must have been some considerable time in existence for the change to take place. The mare, he learned, soon after purchase gave birth to a foal which, he was told, only lived a few hours. On examining the uterus of the mare after death, he found within the left cornu three distinct glanderous ulcers, two being partially healed. The mucous membrane lining that organ was also inflamed and very unhealthy looking. From the condition of that organ alone, he had not the least doubt that the foal's death was due to hereditary Glanders. He explained that in Chronic Glanders there was very little constitutional disturbance until the final break-up. In fact, the contrary was the case in the mare in question. She was in full flesh and vigour, and yet in an advanced stage of disease in a passive state. If she had recently contracted Glanders the reverse would have been the case. He was informed that the discharge from the nostrils made its appearance, or was first observed, on the second day after purchase, and never ceased from that date up to the time she was destroyed, twelve months afterwards. In only one other disease would they get a discharge of that duration, and that was called "Nasal Gleet," from which the mare in question was perfectly free. He stated that the very fact of the mare remaining fat and sleek, gaining flesh, and never showing real symptoms of illness during the whole of that time, proved positively she passed through no incubative period of disease whilst in Mr. Pullen's possession. The mare could not contract the disease without being for a time, when in its acute or primary stage, exceedingly ill; and that Mr. Pullen assured him was never the case with the mare. Witness stated that he gave notice to the defendant that the mare was going to be destroyed, and that he had an opportunity of getting scientific evidence on his own behalf before she was destroyed, but he did not avail himself of the offer. He gave it as his positive opinion that the mare was suffering from Glanders on the day she was sold to Mr. Pullen.

Cross-examined.—The discharge from Glanders was of a gluey nature and of a dirty-yellow colour, or rusty if mixed with blood. Horses with Chronic Glanders would live for several years. He had no doubt whatever as to the long existence of the disease in the mare in question.

Mr. H. D. Pritchard, veterinary surgeon, spoke to finding the mare suffering from Glanders in September, 1876. He said a glandered horse, if well nourished, would live for twelve or eighteen months after being seized with the disease.

Cross-examined.—He was of opinion that the mare only had Glanders in September, but he would not swear that she had not had them longer.

Mr. E. Beddard, another veterinary surgeon, also described the character of the disease from which the mare suffered, and said she must have been suffering for a long time before she was destroyed.

Cross-examined.—She had had Glanders three or four months when he was called in to see her. He would not go so far as to say she was glandered when Mr. Pullen bought her, but he would not swear that she was not glandered at the time of purchase.

This was the plaintiff's case.

Mr. J. E. Underhill, for the defence, said Mr. Stanford was a very respectable horse-dealer, and sold largely to the Shropshire Union Company, and numerous other firms who kept horses. He (Mr. Underhill) should call evidence to show that the mare in question was perfectly sound at the time she was sold. Mr. Stanford lent her for a few weeks to the Shropshire Union Company, who kept her with their waggon-horses. They worked her from September up to the very day that she was sold to the plaintiff. When they first had her she was rather poor, but before she left she was considerably improved in condition. She was taken down to Mr. Pullen's by a drover, who met Mr. John Bishton on the road, and inquired of him for Mr. Pullen's place. Mr. Bishton noticed that she was in good condition, and, apparently, there was nothing the matter with her. Instead of Mr. Pullen complaining to Mr. Stanford about the mare a few days after she was sold, it was five or six weeks afterwards, and then she was only suffering from a cold. None of Mr. Stanford's horses were affected with Glanders, either before or after the mare in question was sold to the plafntiff.

The defendant was afterwards called, and corroborated the statement made by his solicitor. In cross-examination, he said that after Mr. Pullen complained to him about the mare, he called at Messrs. Cartwright and Hill's and saw Mr. Brock, whom he told that Mr. Pullen wished some one to go and see the mare in question; but he afterwards called and said they need not send. His reason for the latter proceeding was that he did not think it worth his while to go "messing" after the mare. When he saw the mare in May he considered she was suffering from "the Strangles," the result of a cold. She had had a colt, and very probably caught cold. She had been kept in the Shropshire Union Company's stables, with the waggon-horses. He did not send for her back again because he was told she was too good for the work.

William Pool, the manager of the team department of the Shropshire Union Company, said there was nothing whatever the matter with the mare when she was fetched away from their stables. She was worth £10 more when fetched away than when she was borrowed. While he had her he heard no complaint about her.

William Owen, a Shropshire Union waggoner, who drove the mare in question, also denied that the mare had a running at the nose when he drove her. He positively denied having said to Mr. Pullen's waggoner, "So you have got the dirty-nosed mare?"

Robert Turner and Thomas Pugh, both in the employ of the Shropshire Union Company, also denied that there was anything the matter with the mare when they had her; and John Bishton, who saw her on the road to Mr. Pullen's, said he perceived nothing the matter with her, but it was dark at the time.

William Bishton, the late manager of the Wolverhampton Corporation Team Department, spoke to having a conversation with the plaintiff about buying the mare, and said she seemed to have nothing the matter with her.

Mr. Hill, on being recalled, said the running at the nose might break out

suddenly at any time. It was not unusual for it to cease altogether for a time. In reply to His Honour, witness stated—"I base my opinion as to the long duration of the disease chiefly on the condition of the uterus. The ulcers or chancres there found were of a specific nature, and belonged entirely to Glanders; they would be a very considerable time in healing. It would be impossible, with the presence of those chancres, for a mare to bring a healthy foal. The foal *in utero* would contract the disease immediately the mare did, through the fœtal circulation. The determinate organs in tubercular diseases are lastly affected." Mr. Hill added that if His Honour wished it he could produce scientific works written by the highest authorities, to confirm his statements with regard to the long duration of Chronic Glanders.

His Honour remarked that he did not desire that to be done.

Mr. Joseph Underhill then replied on behalf of the plaintiff, specially referring to the evidence as to the mare coming from the Shropshire Union Company's stables, where there had been glandered horses.

His Honour, in giving his decision, said his mind was not altogether free from doubt. It had been sworn to by several witnesses, on defendant's behalf, that up to the day of the sale there was nothing the matter with the mare, but the following day she began to "run" at the nose. He was of opinion, from the evidence of Mr. Hill, that the mare was suffering from Glanders on the day that she was sold to the plaintiff. He then gave a verdict for the plaintiff for the full amount claimed, with costs.

The hearing of the case occupied several hours, and the Court was occupied by numerous gentlemen interested in "horsey" matters.

Army Veterinary Department.

Gazette, January 30.

VETERINARY DEPARTMENT.—The undermentioned Veterinary-Surgs. to be Veterinary-Surgs. of the First Class:—E. Ewing, Royal Artillery; J. A. Rostron, 5th Lancers.

Gazette, February 9.

VETERINARY DEPARTMENT.—Veterinary-Surg. on Probation. G. F. Davis to be Veterinary-Surg., vice J. Hume, deceased.

Veterinary-Surg. J. B. W. Skoulding, F Brigade, R.H.A., has been ordered to remain at Rawul Pindee, on the expiration of his leave of absence on medical certificate, for duty at that station.

Veterinary-Surg. H. Thomson has been directed to proceed from Cawnpore to Allahabad for duty with the Royal Artillery there.

Veterinary-Surgs. S. Gillespie, R.H.A, is transferred from Lucknow to Meerut; and W. Walker from Umballa to Jullundur.

Veterinary-Surgs. A. Bostock has leave to England to appear before a medical board; and J. K. Grainger to Bombay to appear before a medical board.

It appears that the following rule was established by the Secretary of State for India, and approved of by H.R.H. the Field-Marshal Commanding-in-Chief, so long ago as 1873, though for some reason or other it was never published until now:—"That a qualification of a minimum service in India of three years be in future required in the case of all Staff

Veterinary Surgeons nominated for employment in that country." In consequence of the rule in question not having been promulgated to the Veterinary Officers of the Army at the time, it is notified that the Secretary of State for India, on the recommendation of His Royal Highness, has approved of a slight relaxation of its conditions at present, until the officers have had time to qualify, with the distinct understanding that the three years' rule will be strictly enforced hereafter.

Considering the serious discontent at present existing in the Veterinary Department of the Army, and the fact that none of the best graduates of the Royal College of Veterinary Surgeons will join it, the relaxation alluded to may be looked upon as an attempt to remedy, to some extent, an obvious act of injustice, though we are left in the dark as to what the relaxation may be. Why, or how, this rule has been so long kept from the light we know not. It is certain, however, that before 1873, and since that period, promotion to the rank of Staff Veterinary Surgeon has been made in the case of those who had not the qualifying service in India. The Veterinary Department labours under many disadvantages and disabilities, which are every year rendering it less attractive to promising members of the profession; and so long as these drawbacks exist, and hidden mines like this continue to be sprung, it is certain that it will not recruit its ranks from among those who would do it credit or even decent service. There is a long tale of grievances often told, *sotto voce*, which makes a very bad impression on those who might be worthy aspirants, under more favourable conditions.

Obituary.

THE death of Mr. Charles William Clancy, M.R.C.V.S., of Kildare, Ireland, is reported. Mr. Clancy graduated April 24th, 1865. Mr. Wilmer Caudwell, M.R.C.V.S., of St. Neots, who obtained his diploma in 1820, has just died, aged seventy-four years; likewise Mr. W. Stratton, M.R.C.V.S., of Castle Bellingham, Ireland, who graduated so recently as April 29, 1867 and of Mr. William Fordie, Professor of Anatomy in the Glasgow Veterinary College.

The demise is also announced, on November 6th, of Professor Johann Emanuel Veith, doctor of theology, philosophy, and medicine, honorary canon of Salzburg, pastor of the metropolitan church of St. Stephen in Vienna, Commander of the Order of Francis Joseph, honorary citizen of Vienna, holder of the great "Salvator" medal, and director of the Imperial Veterinary Institute from 1817 to 1823. Dr. Veith was a very distinguished veterinary surgeon, and author of a work on "Animal Plagues" and many other scientific writings. At his death he was ninety years of age.

Notes and News.

EWE'S MILK.—At the meeting of the North British branch of the Pharmaceutical Society of Great Britain at Edinburgh on Wednesday, an interesting paper was read by Dr. Stevenson Macadam on "The Composition of Ewe's Milk." Having observed the extreme richness of ewe's milk as compared with cow's milk, and even goat's milk, Dr. Macadam arranged a series of trials as to the composition of ewe's milk yielded by animals fed solely on

good natural pasture, and on the same animals after being fed on extra diet, including linseed cake, cotton cake, and oats. Taking the total percentage of solids by weight in the milk, the average results were as follows:—Town dairy cow's milk, 12·27 ; country dairy cow's milk, 12·77 ; goat's milk, 13·43 ; ewe's milk on natural pasture, 18·75 ; and ewe's milk on natural pasture, with addition of feeding stuffs, 20·11 ; while, taking the fat in the solids, the town dairy cow's milk gave 2·58 ; the country dairy cow's milk, 2·88 ; goat's milk, 4·31 ; ewe's milk on natural pasture, 6·77 ; and ewe's milk with extra feeding, 8·27. The superior richness of ewe's milk under any circumstances of feeding over cow's or goat's milk was thus satisfactorily proved.

Preserving Anatomical Specimens.—For rapidly preparing bones and ligaments for museum purposes, Dr. L. Frederick recommends that, after the soft parts, except the ligaments, have been removed, the preparation should be washed in water, dehydrated by alcohol, and then plunged into essence of turpentine. After two or three days' maceration in this fluid, the skeleton is placed in the position in which it is designed to keep it, and dried in the air. In drying, the bones and ligaments become beautifully white, and the whiteness increases as time passes. The same process gives less satisfactory results for muscles. For a parenchymatous organ, on removing it from the turpentine bath, Dr. Frederick plunges it into melted wax or paraffin during half an hour to two hours, till the bubbles of turpentine have ceased to pass off. When withdrawn and cooled, the piece resembles a wax model, but it is far superior in its minor details ; the colour of the organ persists.

Handling Sheep.—Before boys or any other persons are directed to handle sheep, they should be thoroughly impressed with the fact that they must not hold the animals nor lift them by the wool. A great many men will seize the sheep by the wool on the back with both hands, and lift the animal clear from the ground by the wool only. Barbarous ! Let some giant grasp you by the hair of your head, and lift you from the ground by the hair only ! Would you not squiggle and squirm worse than the mute sheep does when lifted by the wool ? Would not there be a complaint of a sore head for a week or two ? If you do not believe it try the experiment. We have slaughtered a great many sheep in years past, and when removing the pelts of such sheep as had been handled by their wool, we never failed to observe that beneath the skin, wherever the animal had been caught by the wool, blood had settled. In many instances the skin had been separated from the body, so that inflammation was apparent. We have known proprietors of sheep to be so strict in regard to handling them, that they would order a helper from the premises if he were to catch a sheep by the wool on any part of the body. Some owners of sheep direct their helpers thus :—"When about to catch a sheep move carefully toward the one to be taken, until you are sufficiently near to spring quickly and seize the beast by the neck with both hands. Then pass one hand around the body, grasp the brisket, and lift the sheep clear from the ground. The wool must not be pulled. If the sheep is a heavy one, let one hand and wrist be put around the neck and the other pressed against the rump." We have always handled sheep in the way alluded to. We never grasp the wool. Others seize the sheep by a hind-leg, then throw one arm about the body and take hold of the brisket with one hand. But ewes with lamb should never be caught by the hind-leg, unless they are handled with extreme care. When sheep are handled roughly, especially if their wool is pulled, the small bruises and injuries will render them more wild and more difficult to handle. It is an excellent practice to provide a "shepherd's crook," consisting of a small

metallic hook, inserted in the end of a handle about as large as a broom-handle. The bow of the hook is made just large enough to fit the neck of a sheep.—*New York Herald.*

HORSE CONSCRIPTION IN GERMANY.—On January 1st a new law with respect to the supply of horses came into force in Germany. According to this law, the country is parcelled out into districts containing approximately 1200 horses apiece, and for each a local commission will be appointed, with the office of summoning the horses for inspection from time to time, and providing a proper quota in the event of mobilisation.

HOW TO USE A DEAD HORSE.—In reply to a correspondent, the editor of the *American Agriculturist* says : A dead horse or other animal should be skinned, and roughly cut up into as many small pieces as possible. A plot of ground a few rods square should then be plouged deeply, and the carcase thrown upon the soil in the centre of the ploughed ground. Some freshly dry-slacked lime should then be scattered upon the heap, so as to cover it thinly but wholly. The loose earth is then to be heaped over it a foot in depth, and the pile covered with boards, so that the dogs cannot get at the heap and tear it up. If the least smell is perceived, more earth should be thrown upon the heap. In three months the heap may be dug over or turned over with the plough, and well mixed. The bones that cannot be broken up should be taken from the heap, and the fine matter will be worth at least 20 dols. per ton, to use in the hill for corn or cotton. The larger bones may be broken up and buried among the roots of grape vines or fruit trees.

HORSES EXPORTED.—The value of horses exported in 1875 was £240,703, against £205,483 in 1874. To France the declared value was £87,961 in 1875.

Correspondence, etc.

PROFESSIONAL PROPRIETY.

To the Editor of the VETERINARY JOURNAL.

SIR,—Mr. Litt's courageous letter in last month's *Veterinary Journal* is an example worthy of imitation, and forcibly shows how very desirable it is that the profession, *as a body*, should be able to express marked disapproval of unprofessional conduct.

We very much need to create a higher feeling of professional etiquette than we at present possess. If the Fellowship degree be only granted after due inquiry that it is deserved, it will be coveted and valued ; but it should be refused to those who, no matter what other services they may have rendered, have at the same time, by unprofessional conduct, systematically injured their fellow-practitioners.

The degree being a distinction prized by those who receive it, will thus become a court of reference, and can be used, like similar medical honours, as a means of showing that those chosen for it have obtained the approval of their professional brethren.

If granted on any other terms it will lose its importance, and will become of little account. But, doubtless, those entrusted with its management will be exceedingly strict, and will not be betrayed by mistaken leniency into overlooking what should render a candidate ineligible.

It is very, *very* necessary to create a higher feeling of professional etiquette,

and it can easily be done ; but a *beginning* must be made, and nothing would be more conducive to improvement. The teachers of our Veterinary Colleges can accomplish much in this direction by now and then alluding to the subject during their lectures ; and it can also be judiciously fostered and encouraged at professional meetings, both in and out of the colleges.

It is here suggested that flagrant breaches of professional etiquette should be visited with censure whenever opportunity offers, and that such cases should be deemed a disqualification for the Fellowship.

Your obedient servant,

JAMES LAMBERT, M.R.C.V.S.,

Aldershot. 17th Lancers.

THE FELLOWSHIP DEGREE.

To the Editor of the VETERINARY JOURNAL.

SIR,—No doubt most, if not all, of the readers of your valuable journal, have a deep interest in the welfare of the Veterinary Profession. It will not, therefore, I hope, be considered presumptuous in me to offer a few comments on a subject of importance, and which is, or ought to be, in able hands, and so well taken care of as not to require such feeble aid as I could give it ; but regarding which I feel called on to submit for consideration some remarks, with the view to elicit the opinions of others.

It is not to be wondered at that the creation of a new Degree should meet with the disapproval of many, or, in plain words which will be better understood, the jealousy of those who are not eligible. But it is a grave matter, if the object which should be the main one (promoting the Profession to a higher rank) were overlooked, and in its place we could only find that the interest and honour of a favoured few was studied. If such be the case, all honest men will demand an explanation from those who have had the matter in their hands ; and if it is not satisfactory, then the Profession should set their face against such proceedings, and thus turn the tables,—the so-gained honour becoming a disgrace, and also the absence of our fees, etc., might have a good effect.

It is almost needless to say that I refer to the new Degree of Fellow of the Royal College of Veterinary Surgeons.

I learn by the Suppemental Charter, that a member of the Profession eligible for election without examination must have been fifteen years in practice, and not more than 5 per cent. of the whole number of such members as shall be deemed best by the Council shall be elected.

I would ask, is such unfair play calculated to advance the profession? On the contrary, it shows, to put it in the mildest terms, want of due consideration on the part of those who profess to be its leaders, and as such have obtained the new Charter, under which it is proposed to grant such fellowships ; surely the present holders of diplomas should protest against such injustice.

We who studied, and at present hold the highest degree that could be gained during our college career, stand on equal footing respecting our scientific attainments : who therefore is to be our examiners? The empty-titled, self-exalted few who have not been examined, and have in the already described strange manner just come out from amongst us. Science is advancing in all its branches, and the theories of the old school and the present vary much, therefore it would be on this ground objectionable ; then on the other hand, those who have obtained their Diplomas, and subsequently had years of practical experience, would it not be absurd for some new-fledged theorist to become their examiners, inasmuch as the most learned,

scientific, and successful practitioner of long experience, who on a scientific subject of some pathological importance, let it be the anatomical structure relative to operation or disease, physiological difficulties, etc., in connection with the same chemical action, changes, etc., or the influence of medicine under these circumstances,—such a man would show his superiority in a debate, or better still when an animal required his aid, whereas at a board of examiners a short simple question might only at the time annoy and confuse him; in fact, few men of forty could pass the schoolboy's examination of fifteen. It also is inconsistent that long years of practice is essential to make one eligible for examination; and as I read in your journal the committee have decided that the examination is to be more scientific than practical, this is absolutely ridiculous, especially when by the same source I see that they have also come to the conclusion to refuse the honour rather than diffuse it too liberally.

I also see (by some strange freak) on the committee the names of some, who by the Registry should not be eligible. In my opinion the Council have made matters worse. The alteration makes eligible some who previously were not, and excludes others who previously by the former rules were entitled. A list of the proposed names with the Registry in hand will at once show those I allude to, but not having permission from them I do not here give their names. The alteration seems to have been made purely for the purpose of admitting a special few, and not for the benefit of the profession at large; and indeed I may say most of them are better adepts with their pens than their knives, and their books and not their patients; and these are the persons chosen by a council to obtain a degree, which object should be to raise the profession by granting a special honour for practical ability, for such I believe is the Charter. I sincerely hope my object will not be misunderstood; it is simply that I am convinced that this matter should be treated as we do a deep-seated fistula. We probe not to give pain. We examine the exuding matter not for the sweetness of its odour. Nor yet do we use the knife freely to intimidate the patient to get well, or the owner for the fee.

Hoping you will give the above a space in your valuable journal,

I am, sir,

Yours respectfully,

JAMES MCKENNY, M.R.C.V.S.

Dublin, *February 3rd*, 1877.

[We publish the foregoing letter, as we think it desirable that both sides of any question referred to in the *Journal* should be heard. We are far, however, from agreeing with the writer, though we give him full credit for his motives. In the election of a limited number of eminent men of *fifteen years' standing* in the profession, as Fellows without examination, the Council, by the powers conferred by the Supplementary Charter, is only following the course which had to be pursued by the Royal College of Surgeons and other medical corporations. The Council, in our opinion, must be entirely exonerated from anything like a charge of jobbery; indeed, it appears to have scrupulously abstained from exercising its power in favour of friends, and has adopted such a standard of qualification as will be appreciated by the profession—such as professors and examiners of five years, presidents of the Royal College and of Veterinary Medical Societies, authors, and those distinguished for original research, specially qualified members of Council, and others who have similar claims to the distinction. We fancy that all who have been elected are not behind their brethren in that unknown quantity "practical ability," as distinguished from the ability to read or write a book, to describe fairly well an interesting case, or even to write a letter. For

the last eighty years we have heard rather much of "practical ability," which the empiric claims as well as ourselves ; and far too little of the other abilities, which constitute the difference between the roadside farrier or cowleech and the professional man. Practical ability is only too often made a plea for the absence of ability in general. A man need not be the worse practitioner because he can write a letter or describe a case of disease, nor need he even be utterly devoid of practical ability should he be enthusiastic enough to have made sacrifices to write a book for the benefit of the veterinary profession. Not long ago, when the "practical man" was the ruling spirit, and the educated workers, who might have been counted on the fingers of one hand, were set down and ridiculed as theorists, the veterinary profession in this country was designated "ignorant and barbarous" by the leading organs of public opinion. We will not say that this was at all deserved ; but it has compelled the Council to move in the right direction, and to take a step which will place a far wider gap between the uneducated and the educated *practical* man than has heretofore existed.

Of the future standard of qualification for the degree of Fellow by examination, the Council, which will hereafter be elected by the votes of the whole profession, will probably be better able to judge than our correspondent.]

PROFESSIONAL TOPICS.

To the Editor of the VETERINARY JOURNAL.

SIR,—I have read Mr. Litt's letter on "Professional Propriety" in last month's *Journal* with much pleasure, as I know only too well from personal experience that the abuse he mentions is one of the greatest stumbling-blocks in the way of those members of the profession who, like myself, are earnestly desirous of raising it in the public estimation to the position it deserves to occupy. I think, besides looking to the future, it is high time we found some mode of practically testifying our disapproval of such conduct as Mr. Litt describes ; and I suggest that such offenders should neither have the Fellowship degree, nor be members of Council, when any case of unprofessional behaviour has been proved against them. This would serve as a check in some instances, though the evil is too deeply rooted to be effectually eradicated until a more severe educational standard is insisted on. Another class who do great harm are those whose conversation, when you happen to meet them, chiefly consists of, "I was out at six this morning, rolled my sleeves up, fastened two shoes on, afterwards blistered a leg or two, then gave a horse an enema," etc., etc.,—all this said with a kind of bravado, and a sneer at the more enlightened veterinary surgeon, who refuses to do this sort of thing, as he can see it efficiently carried out by a groom or blacksmith, but in an emergency is not above using his own hands for the purpose. What would the officers of a cavalry regiment think of a sample of this sort? His position would dwindle at once into that of a Farrier-Major, and he would be shunned by all of them ; though they, as a rule, are quick to recognise and appreciate a man who has a due regard for himself and knows the ways of good society. It is also essential that a veterinary surgeon should be well read on all subjects that occupy the attention of educated men : such as the government of the country, our relations with foreign nations and their politics, the current literature, etc., and be able to feel himself at home in a general conversation with the country squire or shrewd business man, neither of whose avocations require half the brains of those who practically treat the diseases of the lower animals.

There has been much talk lately of the Fellowship degree, and the lucky

ones who are to receive the honour without passing an examination. I am delighted to give praise to many worthy men who have been toiling for years for the good of our cause; still there are some who have done literally nothing to deserve the honour, and simply because they come within the fifteen years' clause they can have it by merely paying ten guineas. Now I would suggest that a few, say twenty out of a hundred, who have been in practice ten years, and have shown any zeal for the advancement of the profession, be balloted for and admitted on the same terms, as in my opinion they can be credited with as much ability as the older men. There is another clause which is absorbing great attention here,—the one which provides that, in addition to the examination, the younger aspirant should have to pay an increased fee. This alone will prevent many from seeking the distinction, on account of their being unable to afford the fifteen guineas; and I think it would have been more reasonable if that had been demanded of the older candidates.

I am, sir, yours faithfully,
ALEXANDER LAWSON, M.R.C.V.S.

Manchester, *February 14th*, 1877.

PROUT *v.* PARADISE.

To the Editor of the VETERINARY JOURNAL.

[We have been requested by Mr. Broad, Bath, to publish the following communication.]

"17, St. John's Hill, Shrewsbury, *February 4th*, 1877.

"MY DEAR SIR,—Annexed you will find cheque value £2 2*s.*, which I beg you will place to account of the 'Paradise Fund.' I consider it the duty of every member of the profession to do all he can towards indemnifying Mr. Paradise, and protesting against the very unprofessional conduct of those veterinary surgeons who gave evidence for the plaintiff. I have not the least objection to your publishing this letter if you think well so to do.

"Believe me, my dear sir,
"Yours very faithfully,
"W. E. LITT, M.R.C.V.S.

"T. D. Broad, Esq."

POISONING BY CARBOLIC ACID.

To the Editor of the VETERINARY JOURNAL.

SIR,—In the December number of the *Veterinary Journal* we notice an article on injury to horses by the use of Carbolic Acid. It is our impression that the acid has not been thoroughly dissolved when applied, and that, in consequence, portions of raw acid have caused the results reported. When first our product was used against Scab in sheep, many accidents occurred, and for the same reason; but we have remedied this by making a preparation (containing 70 per cent. of genuine carbolic acid) which is very readily soluble in water, and can therefore be more safely used. Of this preparation we are sending you a sample, and we shall be glad if you will have it *tested* when opportunity offers, especially against "greasy heel."

Along with the "Cattle-wash" we have placed samples of other carbolic preparations that you may perhaps think worth trial.

Some veterinary surgeons are making much use of our 10 per cent. Carbolic Soft Soap, and there is *no doubt* that the Carbolic 15 per cent. Powder

can be employed in stable and shippons with decided benefit to the health of the animals housed therein.

We are certain that Carbolic Acid deserves much consideration by veterinarians, because of its proven value as an anti-ferment; and it (No. 4 quality) might probably be administered *internally* to cattle and horses with much benefit in cases where the mucous membrane of the stomach has become inflamed, or its contents set into a condition of ferment.

Respectfully yours,

F. C. CALVERT AND CO.

Tower Chemical Works, Bradford, Manchester. (R. Redmayne.)

ANSWERS TO CORRESPONDENTS.

JAS. C. CORLIES, NEW JERSEY.—There is no P. R. Courtney in the Register of the Royal College of Veterinary Surgeons. The person you allude to cannot, therefore, be a graduate of the Royal College. We are unable to discover that Charles W. Fawns graduated in Edinburgh in 1859-60. The name does not appear in the Register.

A. H. T.—We believe there is only one veterinary journal published in Spain. We shall procure it, and will gladly avail ourselves of your kind offer.

W. BROUGHTON, LEEDS.—Up to the moment of our going to press, we have not received the report of the proceedings of the Yorkshire Veterinary Medical Society from the Editors of the *Veterinarian*.

COMMUNICATIONS from T. D. Broad, "Nemo," "Max," G. Gray, R. Poyser, W. Woods, W. E. Litt, J. M. Parker, J. W. T. Moore, P. Beattie, W. A. Cox, G. Fleming, and others, are unavoidably pressed out of this number. They will appear in our next.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from R. Reynolds, Liverpool; Professor Smith, Toronto; J. W. Hill, Wolverhampton; J. Rowe, London; W. Dacre, Manchester; J. McKenny, Dublin; S. Knott, Royal Artillery, Shorncliffe; R. Redmayne, Manchester; J. C. Corlies, New Jersey, U.S.A.; J. Lambert, 17th Lancers, Aldershot; A. E. Macgillivray, Banff; J. M. Parker, Birmingham; J. W. Moore, Liverpool; R. Poyser, The Carabineers, York; W. Woods, Wigan; W. Broughton, Leeds; W. A. Cox, Manchester; W. E. Litt, Shrewsbury; T. D. Broad, Bath; "Nemo"; G. Gray, Bakewell; A. Lawson, Manchester; P. Beattie, Bogfern.

BOOKS: Veterinair-Kalendar für das Jahr 1877; *G. Thin, M.D.*, The Connective Tissue Question; *H. Reece, M.R.C.S.*, Foot-and-Mouth Disease; its Treatment and Cure; *Peuch et Toussaint*, Précis de Chirurgie Vétérinaire.

JOURNALS: *Oesterreichische Vierteljahresschrift f. Wissen Veterinärkunde; Recueil de Méd. Vétérinaire; Wochenschrift für Thierheilkunde; Archiv. für Wissen. und Practische Thierheilkunde; Practitioner; Edinburgh Medical Journal; British Medical Journal; American Veterinary Review; National Live Stock Journal; Abeille Medicale; Archives Vétérinaires; Journal de Méd. Vétérinaire; Deutsche Zeitschrift für Thiermedicin; Annales de Méd. Vétérinaire.*

NEWSPAPERS, etc.: *Toronto Mail; Toronto Globe; Lancet; British Medical Journal; Wigan Observer; Agricultural Gazette; Farmer; Daily Telegraph; Live Stock Journal; Home Chronicler; Melbourne Argus; Wilts and Gloucestershire Standard; Herts and Essex Observer; Spirit of the Times; Leeds Mercury; Montreal Daily Witness.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

APRIL, 1877.

DO CONTAGIOUS DISEASES ORIGINATE SPONTANEOUSLY?*

BY W. WILLIAMS, F.R.C.V.S., PRINCIPAL OF THE NEW VETERINARY COLLEGE, EDINBURGH.

I SHALL endeavour as concisely as possible to consider the important subject of the origin of Contagious Diseases—one deserving of our careful study. The more we look into this, and into the peculiarities of this class of maladies, the more we shall be struck with wonder. Who can fail to be impressed with the irregularities of the contagium of Rabies, which is transmissible, by inoculation *only*, from the animal in which it originates to so many others so essentially different in conformation and habits, and with the wide differences in its periods of latency? In the human being, where the full history of Rabies can be ascertained with some considerable certainty, the symptoms have become apparent in periods varying from three days to over five and a half years after the party has been bitten. It is very true that the incubative stage generally lasts about six weeks or so, but this period is not constant, nor indeed is the contagium certain in its effects, for many persons bitten by rabid dogs escape altogether.

* Read at the Annual Meeting of the Yorkshire Veterinary Medical Society.

If we compare these peculiarities of the Rabies virus with those of Cattle Plague, we shall be struck by the contrast: the one contagium so wide in its effects and so uncertain in its latency; the other confined to one natural order, and so essentially rapid in its effects—its period of latency not exceeding ten days; or with Pleuro-pneumonia—so peculiarly a bovine disease, so eminently contagious, but which may not be propagated by inoculation, and in which the period of latency sometimes covers several months. Glanders—an equine disease, but transmissible by inoculation to man—has its own peculiarities: here again the incubative period is very uncertain; but if we turn to the Foot-and-mouth Disease we shall see the effects of an agency as subtle and more swift than the poison of Cattle Plague, the symptoms of the malady induced by it being apparent in two or three days after contact. Although this disease is so rapidly infectious, it appears that the experiments of Dr. Burdon-Sanderson to propagate it by inoculation have as yet shown but negative results. I need not dwell longer upon this point, but I wish you particularly to note these eccentricities of disease-producing agents, as I shall presently refer to the properties of the infecting material of the disease which I shall bring before you in support of the affirmative of the question of my paper.

It is not my intention to discuss any facts connected with the origin of Glanders, Rabies, Pig-Typhoid, Canine Distemper, etc.—diseases which are believed by the majority of veterinary surgeons in this country to originate spontaneously. The certainty that these diseases do so originate may be sufficient to convince my mind; but there are others, and amongst them some of the greatest pathologists of the world, who refuse to believe in spontaneity of the origin of disease, and who in reply say, "Well, it may be apparent enough to you that there has been no infection or contagion, but how are you to prove it? May there not be some contact with a virus that you know nothing of? How do you account for the origin of outbreaks of such diseases as Pleuro-pneumonia or Foot-and-mouth Disease, when apparently there has been no source of contact? or do you mean to say that these diseases originate spontaneously in this country?"

Again, many pathologists maintain that the *materies morbi*,

the *virus*, or *contagium* of contagious diseases, consists of germs which are introduced into the organism, and that the original germ gives rise to successive generations of germs, and that a germ is but a particle of living matter which has been detached from already living matter, and this living matter came from matter of some sort which already lived before it; and upon this point the editor of the *Veterinarian* (March, 1873) says: "But the pathologist may be content to know that all positive evidence is in favour of the conclusion that contagious diseases do not arise naturally in this country. There are always centres of infection, and from them diseases will spread with a rapidity proportionate to the favourable or adverse character of the surrounding circumstances; but the circumstances do not, according to observation, produce the disease when the infecting germs are absent."

It is now my intention to endeavour to prove to you that a contagious disease—the only disease, in fact, in which infecting germs or organisms have been demonstrated to play a most important part—does originate spontaneously in this country, that it originates in no other way, and that it is transmitted from diseased animals to others of the same and of different species, not by cohabitation or contact, but by the direct introduction of the blood of a diseased animal into the system of a healthy one.

Some might oppose the view that it is a contagious malady, on the ground that it cannot be propagated by cohabitation. Anticipating this objection, I have made references to the peculiarities of other infectious diseases, and with some degree of confidence state that this disease is more infectious than Pleuro-pneumonia or Contagious Eczema, is inoculable like Rabies, Glanders, Variola, and Cattle Plague, is as wide in its scope as the contagium of Rabies, and more certain in its destructive effects. I refer to Splenic Fever, or, as it is generally called in this country, Apoplexy of the Spleen, the pathology of which is most interesting.

It is not my intention to refer to symptoms, but to call your attention to those organisms which are found to exist in the blood of animals affected with this malady.

"In 1850, MM. Davaine and Rayer noticed in the blood of animals which had died of Splenic Fever small microscopic organisms resembling transparent rods, but no importance was attached to the observation. Some time later Koch studied the habits of these organisms, which are called the *Bacillas Anthracis*, and found the aqueous humour of the ox's eye to be particularly suitable for their nutrition. With a drop of the aqueous humour he mixed the smallest speck of a liquid containing the rods, placed the drop under the microscope, warmed it suitably, and watched the subsequent action. During the first two hours hardly any change was noticeable, but at the end of that time the rods began to lengthen, and the action was so rapid that after the lapse of three or four hours they had attained from ten to twenty times their original length, and at the end of a few additional hours had formed filaments in many cases a hundred times the length of the original rods; and further on it was seen that within the transparent rods little dots appeared; these became more and more distinct, until the whole of the organism was studded with minute ovoid bodies like peas within their shell. After a time the integument fell to pieces, the place of each rod being taken by a long row of seeds of spores. Koch proved that these spores, as distinguished from the rods, constituted the contagium of the disease in its most deadly and persistent form. Inoculating animals with the fresh blood of an animal suffering from Splenic Fever, he found that they invariably died within twenty to thirty hours after inoculation. Drying the infectious blood containing the rod-like organisms, in which, however, the spores were not developed, he found the contagion to be fugitive—maintaining its power of infection for five weeks at the furthest. He then dried the blood containing the fully developed spores, and exposed it to a variety of conditions. He permitted the dried blood to assume the form of dust, wetted this dust, allowed it to dry again, permitted it to remain for an indefinite period in the midst of putrefying matter, and subjected it to other tests. After keeping this spores-charged blood, which had been treated in this fashion, for four years, he inoculated a number of mice with it, and found its action as fatal as that of blood fresh

drawn from the veins of an animal suffering from Splenic Fever; and every spore of the millions contained in the diseased blood is competent to produce the disease."—*Tyndall.*

The blood of animals affected with Splenic Fever always contains the staff-shaped bodies, if examined at a sufficiently advanced period; although in the earlier stages of the disease they are not discoverable, being either not present, or, at all events, not in such numbers as to admit of their being made out microscopically, yet the disease can be transmitted by such blood, and it has been found that the organisms are quite as numerous in the animals inoculated by the injection of blood which was free from organisms as in others. It is, however, proved that the contagium as it exists in the circulating fluid is very transient, losing its activity from the moment the blood begins to show signs of putrefaction. Brauell made experiments for the purpose of determining at what period after death this took place, and found that such blood lost its activity in from three to five days. It is only when the filaments and spores are developed, and putrefaction prevented, that the contagium is persistent.

The foregoing observations prove conclusively the contagious nature of Splenic Fever. It has also been proved that it can be transmitted to animals of a different species, and even to man, by inoculation; "but it is not known that it can be communicated in any other way, for animals kept in the closest proximity to diseased ones, and placed under the most favourable conditions for infection through the air, are not infected" (*Sanderson*).

In proof that Splenic Fever originates spontaneously, I will relate the circumstances of three outbreaks with which I have had personally to deal. I limit myself to a brief history of these three outbreaks, not because I have not had to deal with several others, but because they are typical of all outbreaks that I have read or heard of in this country.

The first occurred when I was practising at Bradford. A dairyman whose cattle I attended regularly sent for me at six o'clock one morning—the messenger stating that one cow had been found dead, and two others very ill. On arriving, in the course of half an hour, at the byre, I found two dead cows and

the third *in articulo mortis*—in fact, she expired in a few minutes after my arrival. In the course of a few hours a *post-mortem* examination was made of the three carcases, and Apoplexy of the Spleen was found in each. I need not detain you by describing the pathological anatomy of the malady. During the day a fourth cow was taken ill, but she recovered; and early on the following morning I was sent for again, and arrived in time to see yet another cow in an expiring condition. The *post-mortem* condition of this animal differed from that of the other three. The spleen was not enlarged, but the intestinal canal was highly congested, there was extravasation of blood into the canal, and great engorgement of the lungs and right side of the heart, the blood having a tar-like appearance, as in the cases examined the previous day. On inquiring into the history of these cases, I was informed that, being rather short of milk, the owner had been forcing the animals with an extra quantity of bean-meal and fine sharps.

The next outbreak appeared in Scotland, in the month of August, in a lot of dairy cows which were out at pasture. The weather, for some weeks previously, had been exceedingly warm and dry—in fact, no rain had fallen for a considerable period, and the pastures were almost burnt up. To prevent the animals falling off in milk and condition, a liberal allowance of cake had been given them. A few days before the outbreak rain had fallen in abundance, and the grasses had sprung up as if by magic,—where pasture had been scarce, it was now abundant,—but those connected with the cattle took no heed of this, and still allowed the linseed cake.

Three cows had succumbed before I saw them. The veterinary surgeon in attendance, a thoroughly practical man, could make nothing of the disease—never having witnessed anything like it before, although he had been in the district for over twenty years. The *post-mortem* revealed Apoplexy of the Spleen in the three dead animals. A fourth was ill, had been bled, seemed to be rather better, and finally recovered.

The third outbreak occurred in Berwickshire, and has the following brief history. A farmer had housed about fifty head of cattle, varying in age from eighteen months to three years,

for winter feeding. At first the animals throve as well as could be wished; but after the lapse of a few weeks several died, without presenting any symptoms of previous illness, whilst others were seen to tremble or shudder, to have twitchings of the superficial muscles, succeeded by accelerated and difficult respiration, convulsions, and death. In some cases there were hæmorrhagic alvine discharges, in others blood issued from the mouth and nostrils; whilst the younger stock were affected with lameness, accompanied by extravasations into the subcutaneous areolar tissue. Suspecting poison, the viscera of some of the dead ones were subjected to chemical analysis, but nothing deleterious was found. After twenty-two —if I remember correctly—had succumbed, I was requested to attend. *Post-mortem* examinations at once revealed the nature of the disease: in the older cattle Apoplexy of the Spleen was present, and in the younger extravasations into the areolar tissue, particularly of the sub-lumbar, scapular, and sub-maxillary regions—proving that the older had died from Splenic and the younger from External Charbon, whilst in all there was congestion of the pyloric orifice of the stomachs, with submucous extravasations, spots, and patches. On inquiring into the history of the outbreak, I learned that the food had been most nutritious in quality and over-abundant in quantity: turnips and cakes of various kinds, but particularly the decorticated cotton cake, had been most liberally supplied; that, as already stated, the cattle had thriven most rapidly, but that the best and most forward in condition had, all along, died first. "Aye, the best gang first!" was the remark made by the hind.

In the outbreaks specified, it will be observed that the common cause of the disease in all three was over-feeding on a highly nitrogenous diet. It may be also stated that the steps taken for the purpose of preventing further attacks were attended by the happiest result—the means employed being an aperient to unload the intestinal canal, short allowance of food for two or three days, and then a diminished supply of the concentrated and more of the bulky articles of diet, as straw. In no instance was there any change in the articles of diet, as one would have been in duty bound to order if any suspicion were attached

to the quality, or if they contained the germs of the disease—but simply a diminution of the one and an increase of the other ingredients upon which the cattle had all along been fed.

Continental writers state that Splenic Fever is also caused by fodder and water contaminated by decomposing organic matters, and by the influence of morasses and stagnant waters. The history of the outbreak which lately occurred at Newcastle points to the correctness of this conclusion; but as Mr. Stephenson is present, perhaps he will be good enough to say something upon this point.

Basing my argument upon the foregoing facts, I think that the only tenable conclusion at which we can arrive is that one disease—contagious by inoculation, or by food and water contaminated by the morbid products of animals which have died of it, and capable of being thus transmitted not only to animals of the same species, but to others and to man—has been clearly traced to owe its origin to other causes than infection; that, in fact, it originates spontaneously. If this be the case with a disease quite as contagious as Rabies, and whose contagium acts in a similar manner, may we not conclude that Rabies, Glanders, Variola Vaccina, and Canine Distemper—diseases which are highly contagious (without speaking of others which are yet on debateable ground)—do also originate spontaneously in this country, and that Pleuro-pneumonia, Contagious Eczema, the Cattle Plague, and Variola Ovina—diseases which are allowed by the great majority of observers to be incapable of originating in Great Britain—may and do originate spontaneously in other countries?

It would be beyond the scope of an address of this kind if I were to attempt to trace the genesis or the mode of production of the organisms found in the blood of Splenic Fever. That they are rare and uncommon organisms must be admitted; and I think that this rarity, and the fact that they disappear from the blood upon the advent of putrefaction, point to the conclusion that they are not due to germs which are mysteriously floating in the air, ready to prey upon a beast whenever they find one congenial to their taste, but rather to an archiebiosis or a spontaneous generation occurring in a complex fluid, such as the

blood becomes in animals fed as those to which I have referred. That these organisms play a most important part is beyond a doubt, and that they are capable of inducing the disease even after a lapse of years has also been proved; and looking upon them as perhaps the cause of the malady in all instances, I think we shall do more good by turning our attention to discovering those conditions which are favourable to their origin and development, and by destroying these conditions prevent a recurrence of a malady so destructive in its effects and capable of so wide a range of operation. If we are satisfied with the postulate that contagious diseases do not arise spontaneously, we shall do but little to arrest further outbreaks of such diseases as the one under consideration; and shall nullify the teaching of Coleman, that by confining a horse in a dark and dirty stable, and feeding on bad provender, Glanders could be produced at will.

How some writers have concluded so positively that contagious diseases cannot arise now spontaneously, is beyond my comprehension; many of these diseases are not yet proved to be due to the influence of any living organisms, and even if they were due to such a cause I do not see why living organisms may not now, as in the past, originate *de novo*, provided that the conditions are similar. To believe otherwise seems to me to be inconsistent with the uniformity of the laws of nature; for what gave origin to a cause of a contagious disease in the far distant past may do so even at the present time. If this be not true, how is it that the *Bacillas Anthracis* is developed in the blood of an animal in which impossibility of infection has been over and over again determined most conclusively?

AMPUTATION OF THE METACARPUS IN A COW.

BY W. E. LITT, M.R.C.V.S., SHREWSBURY.

ON the 8th of August last year, I was somewhat hurriedly sent for to see a two-year-old shorthorn heifer, the property of John Evans, Esq., of Uffington, Salop. I found the animal

standing in the middle of a field on three legs. A glance sufficed to show me that the off fore-leg was hopelessly fractured; and on more careful examination, I found that that part of the shaft of the metacarpal bone which is comprised in the middle third was reduced to a mass of splinters. The owner was particularly anxious to save the animal's life, as she was one of a very choice strain of blood. As it appeared to me to be quite hopeless to think of union ever taking place, I decided to amputate. Having directed that the heifer should be taken from the open field to the farm-building, which was at no great distance, I returned home for the necessary instruments, and with as little delay as possible proceeded to operate. Having cast and secured the patient, she being placed to lie on the near side, I selected the most powerful man present (he being a brawny waggoner), and directed him to take his seat on the side, or rather on the shoulder of the heifer, with one leg on either side of hers, and firmly grasping it with both hands. I then placed a tourniquet on the limb immediately above the knee, the compress being of course placed immediately on the radial artery, the pulsation of which could be distinctly felt. The preliminaries being thus completed, I commenced my incision by passing the knife directly through the leg as close to the back of the metacarpal bone as possible, the edge of the knife being towards me, and about an inch and a half from the head of the bone. By then cutting downwards and backwards, the knife was brought out some three inches lower down, at the back part of the leg. I then proceeded to make a similar flap anteriorly. This was a work of greater difficulty, as there is little more than skin in front of the shin, and this had to be dissected back. However, by the exercise of a little patience I managed to make a satisfactory flap. These two being held back by an assistant, the shaft of the bone was immediately severed as high as it was possible to reach with the saw. The artery was then tied, and the two flaps brought into apposition and firmly sutured with double-strong thread sutures. A large pledget of tow was then placed on the end of the stump, and secured with some seven or eight yards of roller bandage of unbleached calico. The patient was then released, and immediately jumped up. She was

placed in a loose box and supplied with green food and bran mashes. The bandages were left intact until the eighth day, the animal in the meantime being perfectly comfortable, and feeding the whole of the time just as though there were nothing at all the matter. As I have said, on the eighth day following the operation I removed the bandages, and was pleased to see that union had taken place in about the upper two thirds of the wound, both on the inner and outer side. The sutures at the end of the stump had, however, broken out, and the end of the bone was exposed. From this there was some little discharge, rather fœtid, but not much in quantity. A pledget of tow saturated in some mild carbolic dressing was fastened on by means of a narrow roller bandage, and changed daily for about ten days, when it was altogether discontinued.

On the 8th of September I made an examination of the stump, and found that it was to all outward appearance completely healed over: on looking into it, however, more carefully, I saw that the circular rim of bone at the end of the shaft was not completely covered in by the granulation, although this itself had become tolerably hard and dry. I fancied, too, that the end of the bone seemed to be loose or getting down to it. This proved to be the case, for on laying hold of it with a pair of forceps it readily came away,—a ring of bone. After this the stump soon became perfect. Having succeeded beyond my expectation in disposing of the damaged limb without interfering with the patient's general health, I began to think it was time to get an artificial leg, to supply the deficiency thus created, although I must say that it was perfectly marvellous how well the poor animal hopped about on the other three—lying down and getting up without the least trouble or difficulty. Having taken the precise measurement of the stump, the knee joint, and the arm immediately above, I applied to my saddler, who readily constructed what must be called a perfect masterpiece in the matter of artificial legs.

I regret exceedingly that my powers as a draughtsman are so limited, as to utterly preclude the possibility of my even attempting to give you a sketch of the wooden leg. Suffice it to say that it differs in no material particular from the ordinary

human wooden leg, and is easily and securely fastened by means of a broad strap round the leg, immediately above the knee. The socket into which the stump is received is lined with soft leather, and padded out with wool, and is sufficiently deep to admit also the lower part of the knee-joint, but does not in any way interfere with the flexion of the joint. The animal can walk, lie down, and get up with perfect ease, and is to all intents and purposes just as well off with the artificial leg as it was with the natural one. I see no reason why it should not become the mother of any number of calves; but whether it should prove successful for breeding purposes or not, one thing is quite clear from its present forward condition—that it will make a very useful animal to the butcher. I should add, perhaps, that the artificial leg is not constantly worn. Experience has shown that there is no necessity for it when the animal is indoors. When she is required to go out, it is the work of a few seconds only to buckle on the leg. As the subject of amputation is one which has scarcely been considered a part of veterinary surgery, the recital of the above case will doubtless call to the recollection of many practitioners similar cases where the operation might have saved the lives of animals more or less valuable, but which were sacrificed.

FOREIGN BODY IN THE HEART OF AN OX.—HAIRY EXCRESCENCE ON THE CORNEA OF A DOG.

BY J. M. PARKER, M.R.C.V.S., BIRMINGHAM.

THINKING that the following cases may be interesting on account of their rarity, I send particulars of them.

On Feb. 3rd, 1877, I was called to attend a cow at Oscott College farm; and on my arrival, at 10.45, I found the animal—a two-year-old heifer with her first calf—in a very low state; extremities cold, pulse barely perceptible, secretion of milk arrested, profuse diarrhœa, and some impaction of the rumen. She was continually moaning and grinding her teeth. Her

appetite had been good up to the previous day; but the moaning had been noticed at intervals for three weeks—that being the time she had been at the College farm. The cow was evidently in severe pain, and I stated my opinion that she had swallowed some sharp foreign substance which caused pain. The attendant then said that she appeared hungry, but was unable to swallow on *that* morning, the 3rd. I tried her with a little hay, but she would not eat it. I ordered her some gruel, sent her a diffusible stimulant, and left her, saying that I had fears she would not recover. On going again, I was told that she died the same day, at 4.30,—"as if she was asleep," to use the cowman's words. He had kept the heart, liver and lungs. The two latter organs were slightly congested. I carefully examined the heart, seeing at a glance that it was inflamed; and found embedded in the right auricle, at the base, and lying parallel with its walls, a piece of bone one inch long, two-fifths of an inch wide, and about one-tenth of an inch thick, with a square serrated edge at one end, and shaped like the point of an abscess lancet at the other end. The valves of the heart were in a healthy condition. The ventricles contained a quantity of fluid blood, and the lining membrane of the right auricle (especially under the bone) was nearly black.

Unfortunately the organs named were the only parts left for me to examine, and the heart had been interfered with to some extent before my arrival. There was, however, sufficient mischief in it to account for death.

In June, 1875, a setter puppy, three months old, was brought to me for advice about one eye—the left—which was discharging a considerable quantity of muco-purulent matter. On washing the eyelids and carefully examining the eye, I found that the whole of the eyeball was covered with long black and white hairs (the puppy was black and white), spread out like a fan. With some trouble I fixed the eyelid and found that the hairs grew from a warty substance as large as half a pea on the cornea, at the posterior part of the eye, near the eyelid, but not connected with it. I plucked out thirty hairs with the forceps, and sent some lotion containing laudanum and zinci sulph.

In about a fortnight I saw the patient again, and he was reported as having improved considerably. This I found to be the case; and I removed a few more hairs—twelve or fourteen, perhaps. He was not brought to me afterwards, but I heard from his owner that all pain and discharge had ceased. Having occasion to pass the owner's house in September, 1875, I called to see the pup, and found that the eye was much inflamed, and a fresh crop of hairs had grown. I then determined to pare off the "wart,"—for such it seemed to be; but how to do it without chloroform or proper instruments was the question. I decided to transfix the base of the wart with a needle and cut it clean off the cornea with a scalpel. Making a hook of a silver probe, to steady the lid, which was held by an assistant, I was able, after a little trouble, to pass a strong sewing-needle, armed with a stout thread, through the base; and pulling it away from the cornea I dissected the growth very carefully from its attachment, and effectually eradicated it. No more hairs made their appearance, and the wound speedily healed. There was, unfortunately, a considerable deposit of lymph in the eye, from long-continued irritation, which perhaps might have been prevented had I excised the portion at first. I may add, in conclusion, that it was horny to the touch, and not like transplanted skin, which the presence of coloured hairs would appear to indicate.

EPIZÖOTY IN POULTRY.

BY J. W. T. MOORE, M.R.C.V.S., LIVERPOOL.

HAVING noticed in the *Veterinary Journal* for February two articles on the above subject, I am induced to send you a short account of a similar epizoöty, which was brought under my notice in this town.

Captain Flinn, one of the managing directors of a large shipping company at this port, mentioned in November last that he had lost a great many valuable fowls, and asked my opinion as to the cause of the mortality. I learned from him the following history of the disease. He had purchased twenty-four half-

starved Irish ducks about four months previously, and which were put amongst his other ducks. During the first twenty-four hours nine of the Irish ducks were found dead; and from that time not only the "home" ducks, but the other poultry died in the same unnaccountable manner; and in a few months he lost 250 fowls.

The food was Indian corn and meal, wheat, oats, etc.; the roost was well fitted and ventilated, and the run spacious.

In some fowls the first symptoms noticed were—lying flat on the chest, tenesmus, and evacuation of a watery fluid, occasionally tinged with blood; if disturbed they attempted to walk, but fell, and they frequently dropped dead within half an hour from the first appearance of the symptoms. In others the attack lasted as long as two and three weeks, during which time food was refused, and they became very much emaciated.

It was noticed that those which died soonest were the fattest, and apparently the healthiest birds. A veterinary surgeon, who was consulted, gave it as his opinion that they died from Inflammation of the bowels, due to something in the food.

It may also be interesting to state that, in order to try the effects of a change of run, and with a view of saving some of his best fowls, Captain Flinn sent down forty of them to Huskisson Dock, where they were put along with the poultry of the Company's Marine Superintendent. This, however, instead of staying the progress of the disease, communicated it to those of the Marine Superintendent, every one of which (twenty in number, and previously perfectly healthy), as well as the forty sent down, had in the course of five weeks perished from the disease.

Having obtained two fowls, I, along with Mr. Watson, M.R.C.V.S., made a *post-mortem* examination, and found the appearances of the liver and intestines exactly as described by Professor Piana: in addition, we discovered amongst the ingesta, in a considerable portion of the bowels, a large number of thread-like worms about half an inch in length, most of which were alive. Professor Piana makes no mention of worms in the intestines, and does not describe the microscopical appearances of the white spots in the liver. The former he may possibly

have overlooked, but the latter would have been interesting to ascertain.

From the *post-mortem* appearances of the structures, and the contents of the intestines, Mr. Watson and I simultaneously came to the conclusion that the disease was of parasitic origin, —which opinion was afterwards endorsed by two veterinary surgeons who had the opportunity of making a *post-mortem* examination of other fowls.

Taking this view of the malady, I recommended the administration of turpentine, and I am happy to state that after this course was adopted only two fowls died out of seventeen. It is now two months since, and the fifteen continue healthy. The turpentine was given in two-drop doses night and morning.

I may state that before the above treatment was recommended, sanitary measures were adopted during the progress of the disease, but without any apparent result.

INFLUENZA.—OZÆNA.—TUBERCULOSIS.—FARCY AND GLANDERS.

BY W. A. COX, ARDWICK, MANCHESTER.

It may be asked—What are the connections or links between these maladies? They are diseases that are extremely troublesome, frequent, and often *insequitur*. It is at this period of the year, especially if the season is wet and the temperature high, that Influenza prevails. It is met with both in its simple and complicated forms. The simple form is attended with cough, sore throat, tumefied glands, and a discharge from the nostrils. It is not difficult to treat. Rest, good ventilation, warm clothing, fever and cough medicine, and a demulcent diet, with the use of the hot-air or camphor-vapour nose-bath, will, as a rule, speedily restore to health. In a few instances the discharge from the nose continues after the other symptoms have subsided. Most probably the spirits and condition of the animal are such as to induce the owner to work it, or to neglect or

avoid warning the veterinary attendant of this; or even treatment fails to arrest it, and in a short time it develops into true Ozæna.

There are so many *complications* of Influenza, that to notice all of them I should trespass too much upon space. I will advert to one that, from the low, prostrate condition of the vital powers, attended with symptoms of Fever and generally of Catarrh, I have ventured to call "Typhoid Influenza." In this guise it has ravaged town stables for a number of years, and some time ago was called the "French Distemper," having visited Paris prior to its appearance here. Without doubt it was this form of disease that created such a *furore* some few years ago in the American cities, especially in New York.

It is insidious in its attack; the animal is sometimes unwell, "out of sorts" for a day or two, but no marked indications of disease are seen. The visible symptoms following are shivering or abdominal pain, seldom so violent as a mild attack of Colic, but what may be termed "uneasiness"; this passes away, and is succeeded by languor, impaired or lost appetite, drooping head, cold, doughy skin and extremities, injected membranes; occasionally a flow of tears from the eyes and discharge from the nose; the mouth is hot and the saliva viscid; the pulse numbers from 50 to 80 or 90 in the minute, is irregular or intermittent, and sometimes so small as to be scarcely perceptible. In many cases the throat is sore; in others the glands are enlarged, and a cough is present. The bowels are torpid and the fæces coated, and masses of fibrinous matter voided with them. In some instances there are early indications of thoracic disease; the symptoms enumerated are most or all present; in addition, we have more or less disturbed and accelerated breathing, often attended by a catch or grunt; the mucous membranes are more injected, the pulse very small and rapid, and there is a painful attempt to cough. Again, we see others with the mucous membranes of a yellow tinge, with intense nausea, evidenced by frequent gaping or rolling out the tongue and a flow of saliva; the urine is scanty and darker than natural, and the fæces small, coated, and dull clay-coloured; occasionally, in connection with all or any of the above, we find great stiffness of the extremities, with

general infiltration of the areolar tissue in them, or the joint capsules are distended and painful under pressure; the back is arched, and the hind-legs are advanced, and progression is painful. In a few instances the limbs are the seat of the disease, the other symptoms being concomitant. In some animals the brain and nervous system has been primarily and principally attacked.

Thus it may be said to assume a pneumonic, a biliary, a rheumatic, and a cerebral type—the first being most frequent. We may have all these types amongst a limited number of animals in one stable, or all the cases may assume one character.

The death-rate is greatest in aged and young animals; if attended to at its earliest stage, it is not necessarily a fatal malady. It is in the pneumonic form that unfavourable terminations are most frequent; in all forms we find that convalescence is retarded by extreme debility and fickle appetite, and we are annoyed to find that tubercles have been imperceptibly forming, or that effusion has taken place. That Tuberculosis is the final sequel of this malady, or as a disease *per se*, is uncommon; it is the forerunner or concomitant of another disease hereafter to be mentioned. If it occurs, it is more often in succession to this disease than any other, and the death of the patient is attributable to hectic, the result of accompanying debility; if the strength of system is sufficient to allow of true development, it would in almost all instances terminate in Farcy or Glanders; this is especially the case under circumstances favourable for their development. It is *not* uncommon for partial restoration to health to take place; the more acute symptoms have subsided, leaving our patient weak and languid, but the appetite is improved, and although the breathing is not normal, it is not quick or hurried; this continues for some time, and it is only by careful auscultation that we can discover that disease is making progress in the lungs. After a certain period, that varies considerably, the cough—that has probably never entirely subsided—becomes worse, the discharge from the nose reappears, and in a short interval small tumefactions are observed; these may appear about the head or extremities, and sometimes on the body;

they vary in size and sensibility. In from twelve to thirty-six hours they burst, the discharge being ichorous; they then present an irregular sulcus in the centre, with a thick, lividly-inflamed circumference, raised so as to be prominent—the "true Farcy-bud."

It is not denied that during the earlier stages correct diagnosis is difficult; but if possible such cases should be isolated.

I had not intended to speak of the treatment of these maladies; but a conversation I had with a junior member of the profession, who had received the rudiments of his education from a distinguished Professor, induces me to do so, and it will be as concise as possible. After describing the symptoms, and asking him to suggest the treatment, to my astonishment he replied, "Take a little blood, and give a small dose of physic—say two or three drachms of aloes." This method, if adopted, would be most effectual, for it would speedily end the patient's life! Ventilation, revivifying the box with hot air daily, warm clothing, a negative rather than a positive system of treatment, using such agents as Sulph. Mag. c. Spts. Nit. Æth., Ext. Belladonnæ, Liq. Ann. Acetas., and others, giving as support gruel, with whisky, porter, beef-tea, or milk as required, is the most effective.

Farcy and Glanders, pathologically considered, are one malady, the distinction being in the *locale* of the disease, or rather its appearance. They are, speaking in the double sense, so infectious as to necessitate the destruction or isolation of those suffering from them. After the able paper on the subject read by the editor of this *Journal* before the Midland Counties Veterinary Medical Association, and afterwards published in the March number, I shall not enter very fully into the matter, except to give a few practical observations that have occurred to me.

The Causes of Glanders and Farcy are primitively the maladies before enumerated, occurring in dyscrasic systems, or when exposed to unfavourable influences, such as want of ventilation, continued foul or fœtid gas, or aggregation. It is acknowledged that this is an indigenous malady, and one that horses are specially liable to. Many outbreaks, were inspection strict, would

be found to be the result of chronic glandered horses being allowed to work associated with others, often drinking out of the same pail or trough; that all in contact do not become diseased is no proof that the suspected animal is not affected with this malady. This is specially operative in spreading the disease among cab horses.

It has been suggested that every driver should be supplied with a zinc pail, and that when watering his horse he should directly run the water from the tap into it, and on no account take the water from the trough; this is a good system, if dependence can be placed on the men. Another plan would be to place responsible men in charge of the troughs, to see that this was done; but it would entail considerable expense.

Large stables, capable of containing many horses, are now common; but however lofty or well ventilated or clean, we find outbreaks of disease more frequent in them than in smaller stables containing fewer animals, even when the latter are apparently more likely to develop disease. Again, we must consider that if contagious disease appears in a large stable, there is danger of infection that would not exist if there were partition walls; the entire stud are liable if in a stable common to all.

Referring to horses with chronic nasal discharge, inspection would show that many such animals exist, and it would also prove that scores of animals are slaughtered so affected, or having Farcy, that are not reported. This might be remedied by requiring inspection of horses on cab-stands, at the various large stables, and of the carcases at the knackers' yards, and a return or report being made of the same. Cab proprietors —in fact, all horse-keepers—would afford an inspector every assistance.

Where horses are constantly stabled, even when disease does not exist, it is advisable to use hot air to cleanse them; this might be done with a coke stove, at least once a month; it would destroy the animalculæ, render ineffective the spores, besides drying the walls and floors, and preventing the development of mould; the litter, whether straw or sawdust, should be entirely removed, or rather mixed and exposed, daily; the small accumulations that get into the crevices of the floor and

stall are, when saturated and allowed to lie, likely to develop disease. Where disease exists, it is best to remove all litter daily, and to purify the place with chlorine gas; the walls should be scraped, washed with carbolic acid and water, and afterwards lime-washed, adding to this carbolic acid.

(*To be continued.*)

VETERINARY OBSTETRICY.

BY G. GRAY, M.R.C.V.S., BAKEWELL.

THE practical remarks on the above subject by Mr. Cox, in the February number of the *Veterinary Journal*, induce me to record my experience of a case of Ascitis, or dropsy of the belly of the fœtus. I believe, as Mr. Cox says, that it is rarely met with; in nine years' experience I have only encountered one instance of it. I remember my father having a case nearly twenty years ago. Last year I was requested to attend a case of difficult labour. I was informed that the calf was coming all right, but that they could not get it away. On examining the position of the fœtus, I found a natural presentation; the cow at the time had strong labour pains, but was unable to propel the fœtus one single inch. Thinking there might be twins, I made a further examination, and then discovered the abdomen of the fœtus to be very much enlarged; so I at once concluded I had got a case of Ascitis to deal with. I hesitated for a moment as to what I should do, being unprepared for such a case; at last I concluded I had but one alternative—viz., to cut through the walls of the abdomen and allow the fluid to escape. This I did by the aid of an embryotomy knife (the kind of knife I find of most practical value is similar to the one Mr. Cox describes, only the blade is straight). I made an incision about three inches long, immediately behind the ribs, and a little above the sternum, trusting, as Mr. Cox says, to the contraction of the uterus to expel the water. I then applied gentle traction, but the fœtus was still immovable. I therefore increased the traction, when sud-

denly it came away all at once. I found, on examining it, that the walls of the abdomen had burst at the flank, where they were very thin, and the opening I had made, with the view of allowing the water to escape, I could see was entirely useless; because every parturient throe propelled the fœtus into the passage, and the incision coming against the brim of the pelvis prevented the water escaping, while it pressed it to the posterior part of the abdomen, where, finding no exit, the walls gave way. In the case my father had, the walls ruptured in a similar manner to this one. I venture to say that unless the opening be made toward the posterior part of the abdomen (which in the majority of cases would be difficult to do), it will be useless. I am also of the same opinion respecting Professor Simonds' instrument: before you could insert such a long instrument down the throat you must have the fœtus upon a plane; in this case, if I had inserted it down the calf's throat, it would have come in contact with the vertebræ about the middle of the dorsal region instead of entering the abdomen. The position of the posterior quarters of the fœtus was like those of a dog in a sitting posture; and besides, as Mr. Cox wisely remarks, the movements of the fœtal viscera would obliterate the passage. I shall adopt in future a long trocar and cannula; these to be inserted in the chest, passing through the thorax into the abdominal cavity, then withdrawing the trocar and leaving the cannula to allow the fluid to escape through it. This occurs to me as the most likely method of dealing with such cases. I have only seen the first two parts of Mr. Fleming's work on Obstetrics: very probably he may recommend an instrument superior to any adduced. Doubtless, every practitioner who has any taste or love for his profession must feel the loss he yearly sustains from the want of proper instruments in cases of difficult labour. A great many of the instruments recommended are of little use. Take the embryotomy knives, for instance: not one of those I have seen are of much value when we have any part of the fœtus to cut away—say a leg, or the head. The general way of taking off a fore-leg, by skinning it up over the shoulder and then drawing it away by sheer force, is anything but satisfactory,—indeed, I consider it a barbarous operation. I never saw it done without

the vagina being very much bruised and swollen afterwards; and to cut away a hind-leg with an ordinary embryotomy knife at any joint, is next to an impossibility. If it could be as easily done as it is described sometimes in the witness-box, it would be a great blessing for some of us unfortunate practitioners, and perhaps would save us from being mulcted to the extent of three or four hundred pounds for damages. I am convinced we can contrive instruments that would tend to lessen the manual labour, and also the mortality attending difficult cases of parturition. I think there can be an instrument devised capable of disjointing any part of the fœtus, and also a knife capable of cutting through the muscles of the thigh or shoulder with facility and safety. If we had instruments more suitable for the operations we have to perform, we should be better paid, and our services more appreciated by our employers. At any rate, we should not be so liable to be sued for malpractice. I may say that every case I have lost, without exception, might have been saved, had I possessed the proper means for effecting the delivery of the fœtus. I do trust Mr. Fleming's work will be the commencement of a new era in Obstetricy, and I sincerely pray it may justify my expectations.

NÆVI VASCULOSI IN THE COW.

BY LANCELOT T. BARKER, M.R.C.V.S., SKELTON-IN-CLEVELAND.

ON the 17th of last January, I was called to see a white milch cow, the property of Mr. Ralph Agar, of Sparrow Park farm, Marske-by-the-Sea; the messenger stating that the animal had broken a bloodvessel. On arrival, I found the cow in an anæmic condition, with the visible mucous membranes blanched, and great debility present. My attention was directed to a fungoid-looking wound in the skin, about midway between the anterior spinous process of the ilium and the tuberosity of the ischium. At the first glance I thought it was a large wart or "angleberry," it being slightly raised above the cuticle; but on closer inspection I discovered it to be an indurated, circular, subdermic tumour.

I therefore removed the clot of blood that covered its surface, considering it to be a *Nævus* or vascular tumour. No sooner was this done than a jerking stream of arterial blood squirted with great force across the stall. I was informed that it had frequently done so before, but on each occasion the hæmorrhage had ceased spontaneously—though the cow was every time very much reduced in strength and condition.

As a remedial measure, I inserted two long straight pins deeply through the skin—one crossing the other at right-angles at the centre of the spot; a piece of cord was twisted round the pins, so as to strangle the skin occupied by the bleeding formation, and this arrested the hæmorrhage. On further examination, I found several nævi on the opposite side of the body; these varied in size, and on removing the clot from those which had bled, and the epidermis from those which had not, streams of arterial blood jerked out of each.

I applied a little of the solution of perchloride of iron to these hæmorrhagic patches, and prescribed tonics, with a liberal diet; at the same time the cow wore a "cradle" on her neck, to prevent her licking the parts.

This treatment appears to have been successful, as the animal now feeds well, and has greatly improved.

[The occurrence of Nævi in animals appears to be extremely rare, as we cannot find any notice of them in English veterinary literature, and in foreign literature they are barely mentioned. Their rarity in comparative pathology can be easily accounted for, and we are much indebted to Mr. Barker for furnishing us with what we believe to be an exceedingly exceptional case of *Arterial Nævus.*]

FRACTURE OF THE FEMUR.—POISONING BY CARBOLIC ACID.

BY "NEMO."

PERUSING Mr. Naylor's case of Fracture of the Neck of the Femur in the *Veterinary Journal* for November, likewise Mr. Olver's,

I am induced to copy the notes from my case-book of a similar fracture that occurred whilst firing a six-year-old cart-mare exactly three years since. Just prior to completion of the operation the animal struggled violently, and I distinctly heard the fracture of a bone as its result. Instantly I released it from the hobbles, and with extreme difficulty she assumed the erect position. In attempting to return to the stable she reeled and trembled violently, only reaching it with assistance. On examination, I told the owner that it was a fracture of the neck of the femur, and advised her immediate destruction. He stated that it was an accident, and he could blame no one; but as she was a favourite, and a fine-shaped animal, she might be got round to breed a foal and pay the veterinary surgeon's bill. At his request I placed her in slings without delay, applied a strong blister around the part, and ordered a liberal diet. Calling on the 1st of March, I found her resting comfortably in the slings, and noticed that the blister had acted freely; she placed her foot on the ground, but threw no weight on the limb. As the appetite was good and the secretions healthy, I gave orders to continue the diet and bathe the leg occasionally, to reduce the slight tumefaction therein. Hearing twice a week from the owner that the patient was progressing favourably, I did not visit her again until the expiration of five weeks from the date of the accident. On removing the slings, I noticed that a fair proportion of weight was thrown on the limb; though she moved lame on being brought out, but evinced no pain on pressure or progression. The muscles were somewhat atrophied, and the hip slightly down, and I was doubtful if the owner's anticipations would be realised. She was kept in the bay of a barn for the ensuing three weeks, a proper shoe was adjusted to the foot, then she was sent to pasture, put to the horse, and proved in foal. She was now put to light farmwork in autumn, and has gone on well since, being still on the same farm, and in foal again this season, —thus showing that Nature is often the best doctor.

Not long ago I was just in time to see the toxic effects of Carbolic Acid in the following instance:—A black mare, the property of a brewer, had Ringworm, and the horsekeeper and

manager assured his master that he could soon cure that without the aid of a veterinary surgeon. Accordingly, they mixed one part of acid with six of water, and dressed the animal, rubbing it in with a brush : this was about six p.m. They placed the mare in a box, where she soon evinced by her actions the effects of such a dressing. After four hours warm water and soap were used to remove the mixture, and she was lubricated with oil. Still they could do without, or probably feared, the intervention of a veterinary surgeon, and so the poor animal lingered on till between six and seven a.m. on the following morning, when death terminated her sufferings—the owner losing an animal of £60 value rather than incur the expense of medical attendance. "Serve you right," I remarked: "teach you better for the future."

INVERSION OF THE UTERUS IN A MARE.

BY P. BEATTIE, V.S., BOGFERN, ABERDEENSHIRE.

DURING last May I was requested to see a mare, eight years old, the property of a farmer in this district. It appeared the animal had foaled ; and nothing unusual was noticed until a few minutes subsequent to that event, when the after-pains, from the retained membranes, forced out the uterus. The owner took the precaution to keep the protruded mass as clean as possible.

The mare remained in this condition for more than five hours before I arrived. After the membranes were removed, the uterus was bathed with tinct. opii and water ; and when the organ was returned, injections of these were freely applied for three hours. At the end of this period the "pains" had nearly subsided.

The mare was kept standing on a steep declivity—with the head of course downwards—for twenty-four hours. In three days she was convalescent.

TUMOUR IN THE BRAIN OF A HORSE.

BY W. WOODS, F.R.C.V.S., WIGAN.

In October, 1872, my attention was called to a black mare, six years old, the property of A. Hewlett, Esq. The coachman stated that, after having travelled a mile or so, the animal became very difficult to drive—constantly "boring" on the near-side rein. Upon examination I could detect nothing peculiar about her; so I was requested to drive the mare for a short distance myself.

Upon doing so, I found that she gradually increased the pressure on the near-side rein, as had been mentioned by the coachman; but a smart stroke of the whip would apparently rouse her, and set her straight in the road. I diagnosed the case as one of pressure on or in the brain, and recommended bleeding, with a good cathartic, to be followed up by small doses of calomel; as well as rest and change of diet, as the mare had been highly fed for the previous twelve or eighteen months.

As no improvement resulted from this course, however, and the coachman declined to drive her, as he considered her dangerous, she was put on the farm for further treatment. I now applied setons on both sides of the poll, and a strong blister. The mare slightly improved for a week or so, but when put to work rapidly became worse. I ordered her to be placed in a loose box, but held out no hope of her recovery; further treatment was deemed useless.

The mare gradually presented more unfavourable symptoms, and, almost without cessation, night or day, paced around the box—always turning to the left side. She was, however, easily controlled when held, and was evidently conscious when spoken to.

The day before she was destroyed, she escaped from the box, walked against some railings, pressed through them, and travelled into a deep pond—coming out at the other side; but she was easily led back again into the box.

At my suggestion the mare was destroyed; and at the *post-mortem* examination I found a large tumour in the right ventricle

of the brain. Unfortunately, the brain itself was damaged when being removed from the cranium by my assistant. Otherwise, I would have sent you the tumour with its attachments.

I may add that the mare fed tolerably well during the greater part of her illness.

[In January last it was our good fortune to visit Lancashire, and to experience the hospitality and share in the professional enthusiasm which distinguishes our colleagues in the great centres of industry in that important region. The visit was extremely brief, and we almost regret to say that it left little time for aught else than professional discourse and investigation. The tumour referred to by our friend Mr. Woods, attracted our attention when inspecting his museum, and it struck us as the largest cerebro-ventricular formation of the kind we had ever met with. Mr. Woods kindly forwarded the above history and the specimen after our return to Chatham; the specimen we shall, with his permission, present to the Royal College Museum, as we consider it a valuable one. After being kept in spirits of wine from the date of its removal until now, it weighs $1\frac{5}{8}$ ounce; in shape and size it is not unlike the egg of a fowl—measuring $2\frac{3}{4}$ inches in length, the width at its widest end being $1\frac{1}{2}$ inch.

The texture cannot, of course, be well made out now, but we are unable to discover any calcareous matter in it; and to judge from a superficial view, it would appear to be adipose in its nature.

We have on several occasions met with similar cases to this: the symptoms varying according to whether the tumour was in one or other ventricle, or a tumour in each; but in all the cases there was the one predominant characteristic—drowsiness or semi-unconsciousness, a tendency to push ahead in a kind of somnolescent way, or as if affected with somnambulism, or an automatic movement continually to the right or left, according to the location of the tumour in one or the other ventricle.

These cases are most interesting and valuable, but the pathological alterations should be attentively noted. More especially must the changes produced by the tumour on the adjacent parts of the brain be investigated with the greatest care; for we ought to remember that such cases are far more likely to throw light on the functions of the healthy brain than all the vivisection experi-

ments that could be devised—cruel as many of these are, and illusory as they also often are in their results. These cerebral tumours are in themselves, of course, valuable pathological specimens, but the lesions they produce in the surrounding cerebral tissue are still more important to the physiologist and pathologist, and deserve the closest examination.]

CARBOLIC ACID AS AN EXTERNAL APPLICATION.

BY T. D. BROAD, F.R.C.V.S., BATH.

In the *Veterinary Journal* for October last there is an account of an accident arising from the external employment of Carbolic Acid by Mr. Simcocks, and in the January number of this year there are other accounts somewhat similar. The use of this acid for diseases of the skin of horses and dogs, regularly for about fourteen years, has given me some little experience of its toxic effects. In its early use, I had the misfortune to lose several dogs, but in every case it was the result of a defective method of preparing the mixture, the acid not being properly dissolved. I have seen, in one or two instances, swollen patches on the skin of the horse, somewhat resembling the effects of a blister, when the dressing has not been sufficiently diluted; but the effect soon passed off.

The following form is the one I have used for the last eight or ten years without a mishap:—No. 5 Carbolic Acid, ℥j., Sapo Mollis, ℥j., Aqua ℈j. Boil until the soap is dissolved, then add the acid, and as soon as the boiling point is again reached, set it aside. As boiling evaporates the acid, the above proportion, being one in twenty, is the proper strength for local application to the horse; but for general application dilute it to one in forty, by adding cold water. For dogs the local application is one in thirty, and for general application one in fifty. For cats not less than one in sixty. It requires about a quart of the mixture to dress all over the body of a short-coated horse of ordinary size; if the coat is very long it will take two quarts, which is

best applied with a soft brush, such as painters use. The dressing may be repeated every other day as long as necessary. One dressing is generally sufficient to destroy lice in horses or cattle. Large dogs, with long coats, require nearly as much as a horse. The most simple and effectual remedy that I have found for poisoning from Carbolic Acid, is to place the animal as quickly as possible under a stream of cold water, the tap of a cistern if convenient, or from a watering-pot with the rose on, and continue to apply the water as long as any symptom of convulsions remains. A valuable bulldog was dressed by one of my assistants some years since, and he immediately became convulsed and completely paralysed ; it required the constant application of cold water for nearly three hours before all the convulsive symptoms had passed off. However, the next day he did not appear any the worse for it. Three or four years since I was called to see a valuable greyhound that became convulsed after a Carbolic dressing by a veterinary surgeon, who immediately had the dressing washed off with *hot* water and soft soap, but the dog died during the process.

Paraffine, commonly called "Crystal Oil," is a very good and clear application, and may be applied alone to the tail or mane. I usually mix it with an equal quantity of Cod Liver Oil, for which I pay about five shillings per gallon in bulk. It is a very effectual remedy in obstinate skin diseases, if applied every other day for a week, or a little longer if the disease has existed for a considerable time. The first dressing will require about a quart, subsequent dressings a little more than a pint. I have known cases of skin disease in the horse and dog, in which the repeated application of Cod Liver Oil has had a better effect than the ordinary skin dressings. The advantage of the carbolic dressing is, that the horse can be worked during its application ; whereas with the oil dressings it cannot well be done, in consequence of its appearance.

As an internal medicine, especially when there is much Pruritus, balls made of Flour Sulph. and common tar—one to be given three times a day—will quickly produce a beneficial effect ; or when not convenient to give balls, give Arsenicum gr. iv., Flour Sulph. ʒiv., in a powder twice daily.

McDougall's or Calvert's "bar" soap, containing from eight to ten per cent. of Carbolic Acid, I use largely in the treatment of dogs, for destroying, and preventing their being infested by, parasites. In ordinary cases, I order them to be washed once a week; but if there are many parasites, or much irritation of the skin, they are washed every other day.

Carbolic Soft Soap contains generally a larger percentage of Acid, and is more suitable for washing horses affected with parasites or irritation of the skin; especially those cases of the mane and withers caused by the friction of the collar, and from which horses are often made very irritable. It is necessary to use warm water, as the soap does not easily lather.

"PUNCTIO INTESTINI" IN FLATULENT COLIC IN THE HORSE.

BY "A VETERINARY STUDENT."

THE very interesting article upon the above subject by Mr. Harthill, of Louisville, Kentucky, in the March number of the *Veterinary Journal*, gives opportunity to emphasize the fact that veterinary teachers in England fail in their duty, in that they take no pains to teach their students what is being done in other countries in our science. Without intending to give any practical information, the writer will endeavour to state very cursorily what he has collected in a few spare moments upon this subject.

The first notice he can find of this operation is by Vegetius, who lived about the fourth century, and who mentions having performed it upon horses suffering from "Wind Colic," and that the operation was performed about four inches behind the umbilicus. He says nothing about the anatomical position of the intestinal organs to be punctured, but he takes pains to say that the operation is not without danger, and that he does not recommend it.

The next to mention the operation is one Joh. Riem, born at Frankenthal-on-the-Rhine, in 1739. He speaks of having performed it successfully upon horses, and recommends the operation

for swine in similar cases. Bouwinghausen, a German, wrote favourably of the operation upon horses, in 1776.

Barrier, a Frenchman, who wrote about 1779, speaks of the operation as being perfectly safe, and that the practitioner should not delay too long before having recourse to it, if he expected to obtain good results.

Huzard speaks of the operation being performed by Bourgelat, Chabert, and others.

A few words about M. Huzard may not be uninteresting to the veterinary student. He was born in Paris in 1755, and died in 1838 ; and, he may, I think, be truly declared the greatest ornament of our profession during the first half of this century. He filled the place now so ably occupied by M. Bouley—that of Inspector-General of the French Veterinary Schools ; and he was noted among the scientific men of Europe for his culture and learning, and, like M. Bouley, he may be looked up to by the young men of our profession as examples of what study, perseverance, and application to some science may bring to a veterinarian. M. Huzard left an immense private library of about 40,000 volumes.

This little digression the writer hopes is pardonable, and, without quoting other French authorities of the present day, he will dismiss the subject, so far as the French are concerned, by saying that this operation is performed very usually by those masters of veterinary surgery, and is not considered peculiarly dangerous.

We will now turn to several of the more recent German veterinarians. Dieterichs, a great authority in Germany about the middle of this century, at one time performed the operation quite frequently, but seems to have had but little faith in it, and did not recommend it. Falk wrote, in 1831, that he considered it dangerous. Hayne wrote, in 1836, that he had repeatedly performed the operation on sick as well as healthy animals, and expresses himself in favour of it, and considers the existing fears about it groundless.

Forster, of Vienna, states that the operation is indicated in those cases of Flatulent Colic in which a sudden generation of gases takes place, whereby the abdominal parietes are much

distended and the life of the patient endangered. He says that the operation may be performed upon the animal standing or lying, but warns the operator against casting the animal, in consequence of the danger of rupturing the over-distended intestines.

Hertwig, of Berlin, gives quite explicit directions with regard to the operation. He says that, in order to meet the cæcum in its inferior parts, one must make the puncture in the *Regio umbilicalis*, about four inches behind the umbilicus, in the "white line" of the abdomen; or if it is desired to operate on the inferior portions of the colon, the puncture may be made twelve to sixteen inches on either side of the umbilicus, beneath the inferior ends of the four last ribs; or in the *Regio iliaca inferior sinistra* or *dextra*, about eight inches under the angle of the ilium, when the operator may meet the postero-inferior portions of the colon. If, however, he would puncture the antero-inferior portion of the colon at its curvature, the puncture may be made two to four inches posterior to the *cartilago xiphoides;* though the best point is the *Regio iliaca superior dextra*, where the operator is more likely to meet with the basis of the cæcum. Mr. Harthill, and others also, will excuse the writer if he suggests that when practitioners are describing the successful performance of an operation which, from some cause, is in ill repute, they should always be careful to mention the anatomical parts which they expected to touch, and the effects. Such facts are of immense benefit to the young practitioner, and often serve to fix the topographical situation of organs in his mind better than all his studies in his school days. When a veterinarian says he prefers to puncture on the right side rather than the left, it is not sufficient for him to add, because he was more successful thereby. "For anatomical or other reasons?" is the question we desire to have always answered. Without seeking to be obtrusive, the writer would call to the minds of the younger members of the profession, that this very point—the base of the cæcum—is the part most desirable to reach; for not only is the cæcum, anatomically and physiologically, feebly constituted for the quick passage of the digesta through it, and thus, in case of any interference with this act, is favourable to fermentation and generation

of gases; but the ilium here ends and the colon begins. So that we may be fortunate enough to relieve the gas pressure in all three of these intestinal divisions, by one well-directed puncture.

We will terminate these observations by referring to Hering, of Stuttgart—also a very high German authority, who speaks most favourably of the operation, and lays great stress on the *Regio iliaca superior dextra*, as the most suitable point; the base of the cæcum being less likely to be displaced than other portions of the intestines. In fact, we all know that the inferior portion of the cæcum, as well as the colon, is very liable to more or less displacement during all attacks of Colic. It is to be hoped that these observations may be found interesting, if not instructive.

DEATH FROM COMPLICATED DISEASE OF THE HEART AND LUNGS IN A MARE.

BY J. W. HILL, M.R.C.V.S., WOLVERHAMPTON.

ON Saturday, the 24th February, I was consulted respecting the loss of an aged brown waggon-mare, under the following circumstances. The owner, Mr. Lees, residing at Derrington, near Stafford, had purchased her the previous day from a dealer in Wolverhampton, and she was taken away the same afternoon. When four miles out, some bran and water was given to her at a roadside house. On proceeding from there, when only a few yards distant, she suddenly and without warning fell down dead.

I found on *post-mortem* examination an extensive longitudinal rupture of the diaphragm, and also of the external (peritoneal and muscular) coats of the stomach, near to the cardiac orifice. The stomach contained the bran she had eaten, and an immense congregation of "bots"; in the intestines were a little green food and hay.

Lungs: very much congested, tuberculous, and a great portion of them emphysematous.

Heart: from its size this at once riveted my attention. When divested of its covering and the clots removed, it weighed a

trifle over thirteen pounds. An examination revealed the following conditions :—

Right auricle and ventricle atrophied, especially the latter which was flabby and in one part almost transparent ; lining membrane of a deep claret colour (endo-carditic), valves black, but normal in structure. Left auricle and ventricle hypertrophied, the latter to an enormous extent ; lining membrane pale and mottled with yellow lymph-like exudation. Mitral valve extensively diseased, being nearly the eighth of an inch in thickness at the margin, of a gritty cartilaginous nature throughout, and with ecchymosis on its free surface. The one flap had a large deeply-inflamed elevated patch near its border, resembling an undeveloped boil.

Conclusions.—Cause of death, Heart Disease. Diaphragm and external coats of the stomach ruptured in the fall, the latter owing to its fulness. The condition of the lungs showed the animal to have been (independent of the heart affection) unfit for great or rapid exertion.

The deficient respiration, and the probable diaphragmatic pressure on the heart and lungs from the distended stomach, combined to bring about speedy dissolution.

A Dentist for a Hippopotamus.—A curious feat of dentistry was recently performed at the Aquarium in New York, where a young female hippopotamus was operated upon by Dr. Kohn, her keeper. The animal is rather more than a year and a-half old, and, says the *Scientific American*, is just losing its milk teeth by the growth of the second set of teeth or tusks behind them. The period of teething, it appears, is quite as painful and troublesome with hippopotami as with boys and girls. "Baby," as this interesting young female was familiarly called, was seen to be very uneasy. She was continually rubbing her snout against the bars of her cage or on the floor, and in other ways was evidently seeking to relieve the miserable gnawing of her jaws. The young captive, it appears, is about the size of a tolerably large pig, and had always proved herself so gentle that no serious difficulty was apprehended in the performance of this unpleasant operation. No straps or fetters of any kind appear to have been resorted to. The animal allowed herself to be rolled over on her side, and "only kicked and grunted moderately when, after two or three attempts, a strong pull and a stout twist wrenched forth the offending tusk." Dr. Kohn, adds our contemporary, was induced to draw the tooth, not only to relieve the animal's pain, but also to prevent the possibility of the creature's swallowing it, and thus, perhaps, committing involuntary suicide—a death which animals in a wild state, it is said, not unfrequently meet with.

Editorial.

THE FELLOWSHIP DEGREE OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

It will be seen from the proceedings of the Royal College of Veterinary Surgeons, reported in another part of the Journal, that one of the most important objects—if not *the* most important—undertaken by the veterinary profession in this country since it was incorporated by Royal Charter in 1844, has been at length carried to a most successful termination. We allude to the Fellowship Degree which the Royal College can now confer by virtue of the powers granted to it in the Supplemental Charter recently obtained, and which it has availed itself of by instituting a body of primary Fellows to carry out the further provisions of this Charter.

The urgent necessity for the creation of this higher degree has long been apparent; but it was not until the Council of the Royal College was impelled by the force of circumstances to move in the matter, that steps were taken to acquire the necessary powers. With commendable energy and devotion—for which, we feel certain, the profession will now, and for centuries to come, give the Council full credit—the serious and laborious task of devising and elaborating such an instrument as we possess in the Supplemental Charter, was entered upon and accomplished in a space of time which now seems marvellously brief, considering what had to be done. Without any secrecy, the least desire or need to resort to duplicity in order to mislead the profession, and also without any blaring of trumpets when it had completed its work, the Council has honestly, openly, and vigorously carried out its resolve to do its utmost for the promotion of those objects which every true student of veterinary medicine, and every one who is intent on promoting its welfare, has at heart.

That difficulties should have been encountered is only what any one who knows our history could have prognosticated; and that they have all been overcome is due to the fact that those who had to contend with them are not to be daunted by opposition—open or covert; animated, as they are, by a sincere and loyal desire to do their duty to the profession, and to afford it every opportunity of improving itself by those means through which improvement can alone be effected.

Nothing is, or has been, more required among us than an *esprit de corps*—a determination to make for our science a position befitting it, and to stimulate and encourage those who are animated by this determination. The Fellowship Degree should do this, if we are only true to ourselves. Hitherto there has been nothing to work for, nothing to aim at, after the diploma of Member had been obtained; so that the meagre rudiments of veterinary science gained at college soon disappeared; or if they were retained, there was but little inducement to add to or develop them while the mind was yet impressionable, and the habit of study had not passed away. The evils of this have been only too apparent for very many years, and they have kept us behind

every European country; whereas, under more auspicious circumstances, we should have been foremost.

It now remains with the profession to amend its position, and we feel confident that this higher degree should, and *will*, do so if it is esteemed among ourselves as it ought to be. It should be a solid guarantee of professional integrity, honour, and ability, and a passport to the highest offices and dignities to which we can lay claim. It must be no mere empty honour, "sown broadcast" by one or two individuals for their own private ends; but a real test and touchstone of worth and fitness, and a token that he who holds it is worthy of consideration and esteem as one who has given proof of his sincerity in the promotion of that which we should all labour to achieve—the perfecting of our science, and consequently the benefiting of the public and ourselves—to say nothing of aiding in the great work of humanity and civilization.

The list of primary Fellows will show that already the effort has been well seconded, and that the honour and value of the degree are in safe hands. The response to the call made upon the senior members of the profession has been hearty and genuine, and augurs well for the future. As the Council and Board of Examiners of the Royal College can only be composed of Fellows, the profession will have a surety that its best interests will be maintained; while the knowledge that these professional honours are only accessible to those who have obtained this degree, should stimulate the junior members to gain it. By it not only will they raise themselves in the estimation of their brethren and the public, but they will also greatly benefit themselves by the observation and study which every candidate must pursue in order to successfully undergo the examination.

Hitherto our earnest students, and those who would have become earnest students, have had no encouragement—nothing to work for, and by which they could be distinguished from those destitute of ambition and ability. Unlike every other profession, we have never sought to encourage labour for the general good, or reward or recognise striving merit. The Fellowship Degree has been devised to remedy this deficiency—at least, to some extent. If it fails to accomplish this, we shall be greatly mistaken, and shall have lost all hope of regeneration. But "failure" is no word of ours, and we know not what it means; else a thousand times and more we must have closed our eyes and clasped our hands in dark despair. We have cheerfully grouped ourselves with those pilgrims who ever travel with their face towards the rising sun, and so always have the shadow of their burden fall behind them.

PROTECTIVE INOCULATION FOR CONTAGIOUS PLEURO-PNEUMONIA.

THE evidence in favour of protective inoculation for this disease is now, it may truly be said, overwhelming. In every part of the world where it has been tried, its value appears to have been amply demonstrated—often even when the operation has been rudely performed by amateurs. The scientific

experimental evidence is also most decisive and interesting, and we purpose referring to it at an early opportunity. We have now only to note that, by a decree of Feb. 10, the Dutch Government has authorised the burgomasters to order the compulsory inoculation of all cattle which have become suspected through cohabitation with diseased ones; the operation to be performed by a qualified veterinary surgeon, and the State to defray the cost—fifty centimes for each animal. If the supply of virus fails, the burgomaster may adjourn the inoculations, on the advice of the district veterinary surgeon, until the latter can procure more, which he must do as speedily as possible. If the owner or guardian of the cattle opposes the inoculation, legal measures are to be taken against him. Suspected cattle which, on the information of the veterinary surgeon, cannot be sufficiently isolated at pasture, shall, with all the precautions indicated by the latter, be moved to stables, and there isolated for the period prescribed by the royal decree of October 30, 1872.

THE CATTLE PLAGUE AND CONTAGIOUS PLEURO-PNEUMONIA IN THE METROPOLIS.

At the weekly meeting of the Metropolitan Board of Works, held on March 9th, it was reported that only one fresh case of Cattle Disease had occurred since the last report, so that, in fact, they had had one week with a clean bill of health. In the last case there were ten cows, three of which were found to be diseased. Since the commencement of the outbreak there had been 13 cases, involving 148 animals, of which 54 were attacked with the disease and 94 were healthy. Of the 54, 13 died and 41 were killed; of the others only one remained alive and 93 had been slaughtered. The whole amount of compensation would not be more than £5 per head for 54 animals. Pleuro-pneumonia was greatly extending among milch cattle; the numbers attacked with it during the first two months of each of the last three years were 38, 81, and 92; this year the number was 133. With a view to obtaining a more thorough control over the sanitary condition of cowsheds in the Metropolis, the Works Committee was requested to consider the desirableness of declaring the business of a cowkeeper to be an offensive business under 37 and 38 Vict., cap. 67, sec. 3.

On March 11th, Cattle Plague was discovered in a dairy at Stepney, and more than 120 milch cows were destroyed.

VETERINARY HONOURS.

At the meeting of the "Association Médicale Vétérinaire" of Antwerp, Belgium, held on March 6th, George Fleming, Royal Engineers, was unanimously elected a Corresponding Member (Foreign) of the Association. We feel certain that British veterinary surgeons will warmly appreciate this compliment from their Belgian colleagues.

PRESENTATION.

On February 9th, a very pleasing ceremony took place within the residence of Professor M'Call. The senior students of the Glasgow Veterinary College presented Mrs. M'Call with a magnificent timepiece, bearing the following inscription:—

"To Mrs. James M'Call, from the Senior Students of the Glasgow Veterinary College, in token of their esteem and regard for her husband, Principal M'Call.—February 9th, 1877."

Mr. M'Queen, in making the presentation, alluded to the sterling qualities and great success of Professor M'Call, not only as a teacher, but also as a practitioner of veterinary medicine, and his assiduous endeavours to impart instruction to his pupils. He also, on behalf of his fellow-students, bore testimony to the invariable kindness of Mrs. M'Call, and expressed the desire that the future of herself and husband might be long, happy, and prosperous.

Principal M'Call, replying for his wife, thanked the students for their gift, and said that he felt very proud indeed of the presentation, and especially on the grounds which it was made to Mrs. M'Call—*viz.*, as representing his "better half"; for all who knew Mrs. M'Call must admit the truth of that statement. The Professor then referred to the changes which had taken place in veterinary teaching since he had had the honour of being connected with the profession as a teacher; of the great difficulties which lay in the way of students gaining an entrance into the profession; of the brighter prospects, social and pecuniary, which he distinctly observed looming in the distance; and, in conclusion, thanked the students for the unvarying kindness and attention they had (in common with all the students he had ever taught) shown to him at all times and under all circumstances.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD FEBRUARY 20TH, 1877.

Present—Col. Sir Frederick Fitzwygram, Bart., President, in the chair; Messrs. Balls, Batt, Cartledge, Cartwright, Collins, Dray, Duguid, Fleming, Greaves, Harpley, Hunt, Moon, Moore, Withers, and the Secretary.

The notice was read convening the meeting.

The minutes of the two preceding meetings were read and approved.

Correspondence.

Letters were received from Professors Williams and Walley, Messrs. J. R. Cox, Gowing, and Naylor, regretting their inability to attend the meeting.

A letter from Professor Walley, acknowledging receipt of letter informing him that the present system of examination would cease at Christmas, 1878.

A letter from Mr. Robertson, of Kelso, highly approving of the amalgamation of the veterinary portion of the Court of Examiners, and stating that, if appointed, he would willingly act on both sections. Also another letter from him, acknowledging with thanks the honour of his election as a Member of the Court of Examiners in England.

A letter from Mr. Frank Burnham, of Preston, near Hull, who holds a university degree, asking for certain information as to obtaining the necessary qualification of a veterinary surgeon.

The Secretary stated that the President had furnished the required information, and had enclosed a copy of the examination scheme.

Letter from Mr. Alfred J. Owles, Dublin, enclosing extracts from the *Irish Times* of a person described as a veterinary surgeon, and requesting that, if he were not a member of the profession, the subject should be brought under the notice of the editor of the paper, as well as the Council of the Royal College of Veterinary Surgeons.

The following disclaimer appeared in response to the Secretary's communication to the *Irish Times*:—

"DISCLAIMER.—The Registrar of the Royal College of Veterinary Surgeons, London, begs to state that Thomas Moultry, styling himself a veterinary surgeon, who was brought up before a magistrate on a charge of being drunk and stealing a horse, the particulars of which appeared in the *Irish Times* of February 15th and 16th, is not a member of the Royal College of Veterinary Surgeons."

A letter was received from Mr. J. R. Heron, solicitor, stating that the judges appointed by the Court of the Farriers' Company to act with those appointed by the Council of the Royal College of Veterinary Surgeons, were Messrs. W. H. Wagstaff, of 9, Bartlett's Buildings, Holborn; Mr. Sidney Smith, 1, Furnival's Inn; and Mr. Wm. Field, of 224, Oxford Street. He stated that there were only four competitors for the first prize, and none for the second and third. He also enclosed copies of the regulations,* and promised to forward the essays to the judges in the course of a few days.

The judges appointed by the Council of the Royal College of Veterinary Surgeons were Messrs. Fleming, Cox, and Batt.

A letter had been received from Mr. Jenkins, Secretary to the Royal Agricultural Society, enclosing another from Mr. Hunt, and stating that the report for the Royal Agricultural Society's prizes was highly satisfactory to the Council; that the money prizes had been sent to the three gentlemen, and that the medals to which they were entitled had been placed in hand. The fees and expenses had been sent to the examiners.

At the suggestion of Mr. Harpley, Mr. Jenkins' letter and Mr. Hunt's replies were read.

Mr. HARPLEY said he wished to make a few remarks on the subject. The Council had selected three of the very best examiners, who very ably had performed their duties. He thought that an error had crept into the matter, which he did not wish repeated in future. Three examiners had been appointed by the Council, and, as a matter of course, it would be supposed that a report would have been forwarded, together with any remarks the Council wished to make upon the matter. This had not been done, and, considering this was the first time such examinations had occurred, he thought some comment should have been made upon them. The report sent to the Royal Agricultural Society was a very meagre one. He also took exception to the fixing of the day for the examinations, and to the large amount of the fees paid. He concluded by moving "That the examiners engaged in the annual examination of veterinary surgeons for the Royal Agricultural Society's prizes, be requested to send in a written report of the examinations to the Secretary of the Royal College of Veterinary Surgeons as soon after they have been held as possible. That the Council of the Royal College of Veterinary Surgeons fix the amount of fees for the examinations."

Mr. HUNT, in seconding the motion, explained the reason why such a course had been adopted. He said he was most anxious that the Royal College of Veterinary Surgeons and the Royal Agricultural Society should go hand-in-hand; but he thought that the Royal College of Veterinary Surgeons had not placed sufficiently explicit instructions in the hands of the examiners. The representatives of the two bodies had communed together

* These appeared in the *Veterinary Journal* for January, p. 47.

at the end of the examination, and were at a loss to know when, where, and how the report was to be sent in. The examiners had sent in the best report they could to the Royal Agricultural Society, and it was forwarded by the same night's post.

Mr. HARPLEY said he would leave it to the President and Council to say whether anything particularly wrong had been done.

The PRESIDENT thought that there was no question that the Royal Agricultural Society were annoyed at the charge that had been made. Thirty-five guineas was a large charge for five students. He believed there was no intention on the part of any one to do wrong, but it was an unfortunate occurrence, and had produced a certain amount of feeling on the part of the Royal Agricultural Society. He thought the matter might well be allowed to drop.

The resolution moved by Mr. Harpley was then put and carried.

A letter was read from Mr. W. Cockburn, asking to be informed when the competitive examination for the Fellowship would be held for those who had been five years in practice, whether it was to be a written or oral examination, or both, and where it was to be held.

The Secretary was directed, in reply, to refer Mr. Cockburn to the rules.

A committee, consisting of Messrs. Collins, Fleming, Harpley, and Duguid, were appointed to draw up rules for the guidance of the examiners for the degree of Fellowship by examination.

The case of Mr. Payne.

This case, which was brought up at the last meeting, was again under consideration. It was decided that Mr. Payne should be informed that his son was not eligible.

Examinations of the Royal College of Veterinary Surgeons.

The SECRETARY stated that he had written to the Principal of the Royal Veterinary College, asking if Monday, the 2nd of April, would be a convenient day for the examinations to commence, but he had received no reply.

On the motion of the CHAIRMAN, it was ultimately agreed that the examinations take place on Monday, the 2nd of April, and that the Scotch examinations be held in April, so as to suit the convenience of the examiners and principals of the schools.

Expenses of Examiners.

Mr. CARTLEDGE called attention to the railway expenses of those examiners who might be called upon to go to Scotland from England, or *vice versâ*.

Mr. GREAVES said he was always in favour of husbanding the resources of the College, and he wished to remind the Council that at one time Professor Dick had had examiners to examine on his board without charge. They made no charge for either examination or railway fare ; but the arrangements for the examinations had now been altered, and to meet the case he would move "That an examiner be allowed his railway expenses, if he travels more than 150 miles from home to the place of examination."

Mr. HUNT seconded the motion, which was carried.

Fellowship Committee.

The Council then proceeded to consider some additional names proposed as first Fellows under the Charter.

Mr. GREAVES called attention to the fact that there were several members who were really and truly good men, and a credit to the profession, who happened to be five or six weeks short of the time allowed by the Charter, and he would be glad to see his way to electing them.

Mr. HARPLEY, while anxious to advance Mr. Greaves' views, called attention to the fact that the Council, under the Charter, had no power to do what was suggested.

The Council took into consideration the following list of members proposed for Fellows :—

Field, William, President R.C.V.S. 1854 and 1855, Member of Council 1844 to 1864, Examiner 1844 to 1863 ; Gloag, John W., Staff V.S. ; Naylor, Martin E., President Yorkshire V.M.S. 1869 ; Lyon, William, Examiner 1844 to 1850 ; Stewart, John, Original Research ; Withers, Samuel H., Member of Council R.C.V.S. 1849 to 1873 ; Freeman, James, President Yorkshire V.M.S. ; Mayer, Thomas W., Member of Council R.C.V.S. 1844, Examiner 1851 to 1856, 1873 to 1876, Professor Cirencester Agricultural College ; Cockburn, William, Examiner R.C.V.S. 1856 to 1870 ; Raddall, Warne, President West of England V.M.S. 1865 ; Ferguson, Hugh, Professor, H.M.V.S. in Ireland Veterinary Department Privy Council ; Smith, William, President Eastern Counties V.M.S. 1868 ; Moon, James, Member of Council R.C.V.S. 1860 to 1876 ; Howell, James, President Lancashire V.M.S. 1867 ; Paterson, Robert B., Examiner R.C.V.S. 1870 to 1876 ; Cartwright, W. A., Original Research ; Gresswell, Dan, Original Research ; Greaves, Thomas, President R.C.V.S. 1869, Member of Council 1864 to 1876, President Lancashire V.M.S. 1864, Yorkshire V.M.S. 1867, Liverpool V.M.S. 1869, and Midland Counties V.M.S. 1874 ; Broad, Thomas D., President West of England V.M.S. 1869, Member of Council R.C.V.S. 1861 to 1874 ; Gardiner, B. C. R., Staff V.S. ; Hunt, Robert L., President R.C.V.S. 1864, Member of Council 1868 to 1872, Examiner 1872 ; Taylor, Peter, President Lancashire V.M.S. 1865 ; Lepper, George A., Vice-President R.C.V.S. 1867, 1875 ; Cartwright Henry Josh., Vice-President R.C.V.S. 1868, 1874, 1876 ; Broad, James C., Member of Council R.C.V.S. 1867 to 1876 ; Gregory, Thomas D., President West of England V.M.S. 1868 ; Collins, F. F., Staff V.S. ; Gowing, Thomas W., Member of Council 1854 to 1857 and 1868 to 1874, President Central V.M.S. 1875 ; Carter, Joseph S., President Yorkshire V.M.S. 1873 ; Whittle, W., President Lancashire V.M.S. 1871 ; Owles, Alfred J., Staff V.S. ; Cartledge, B., President R.C.V.S. 1871, Member of Council 1859 to 1874, Examiner 1859 to 1876 ; Cuthbert, John, President Yorkshire V.M.S. 1872 ; Robinson, Alexander, Examiner R.C.V.S. 1870 to 1876 ; Cox, John Roalfe, President Central V.M.S. 1874 ; Blakeway, Francis, President Midland Counties V.M.S. 1871 to 1873 ; Gudgin, T. P., Staff V.S. ; Hunting, Charles, Member of Council R.C.V.S. 1866 to 1870, President North of England V.M.S. 1864, Author ; Steel, Charles, 12th Lancers ; Bath, Henry, Royal Artillery ; Robertson, William, Examiner R.C.V.S. 1860 to 1876, President Scottish Metropolitan V.M.S. 1871 ; Collins, James, P.V.S., Member of Council R.C.V.S. ; Poyser, George, Original Research ; Kettle, Bampfield, Original Research ; Harpley, M. J., Royal Horse Guards, President R.C.V.S. 1872, Member of Council 1865, Examiner 1873 ; Fitzwygram, Col. Sir F., Bart., President R.C.V.S. 1875 and 1876, Author ; Woods, William, President Liverpool V.M.S. 1876 ; Death, William, Staff V.S. ; Mitchell, Graham, Original Research ; Fleming, G., Royal Engineers, President C.V.M.S. 1872 and 1873, Member of Council R.C.V.S. 1868, Vice-President 1867, Examiner 1872, Author ; Lowe, Clement, Vice-President R.C.V.S. 1870, 1871, 1872, 1873 ; Lambert, James, 17th Lancers ; Broughton, William, President Yorkshire V.M.S. 1874 ; Morgan, George, President Lancashire V.M.S. and Liverpool V.M.S. 1875 ; Heyes, Gilbert, President Liverpool V.M.S. 1868 ; Stephenson,

Clement, President North of England V.M.S. ; McCall, James, Professor Veterinary College, Glasgow ; Williams, W., Professor and Author ; Law, James, Professor of Cornell University, Author ; Williams, George, V.S. to Her Majesty ; Lambert, T. D., V.S. Royal Agricultural Society of Ireland ; Welsby, Joseph H., Original Research ; Lupton, James J., Author ; Taylor, Thomas, President Lancashire V.M.S. 1868 ; Oliphant, George A., Coleman Prize : McEachran, D., Professor Veterinary College, Montreal ; Anderton, John W., President Yorkshire V.M.S. 1875.

The following names were selected by the Irish section of the committee :

King, James, Belfast, Original Research ; Simcocks, Thomas, Drogheda, Original Research ; Murphy, Matthew, Dublin, Original Research ; Paley, David, Dublin, Original Research ; Preston, James, Mallow, Original Research ; Bell, John, Clonmel, Original Research.

On the ballot being taken,

The PRESIDENT declared seventy-two primary Fellows duly elected.

The following additional names were then proposed by the Council, viz. :—

Varnell, George, late Professor R.V.C., President R.C.V.S. 1865, Member of Council 1852 to 1868 ; Balls, George, Member of Council 1871 and 1875 ; Batt, Hartley T., Member of Council 1876, Original Research ; Coates, Wm. Henry, Member of Council 1862 to 1874.

On the ballot being taken, these gentlemen were also declared to be elected.

Total number of Fellows elected, seventy-seven.*

A copy of the new form of diploma was submitted. It was approved of and ordered to be engraved, and 100 copies to be printed.

The Examination in Pharmacy.

The following is the report of the Committee on the removal of Pharmacy from Clause 6 to Clause 8 in the Education Scheme :—

A meeting of the Committee appointed by the Council to take into consideration the transference of "Pharmacy" from Clause 6 to Clause 8 in the Education Scheme was held on February 16th.

The Committee are of opinion that, as the schools have for this year arranged their classes to suit the new examinations, it would be undesirable, and indeed impossible, to make any change at present.

The Committee recommend that if the new and as yet untried scheme is found unsuitable at the end of the year, the subject should then be reconsidered, and if any change be thought desirable, due notice could be given to the schools.

The report was adopted.

This terminated the business of the first special meeting, at the conclusion of which a

SECOND SPECIAL MEETING

was held.

The PRESIDENT moved, and Mr. MOORE seconded, the confirmation of the Bye-laws which were moved at the last meeting of the Council.

The motion was carried, and the new Bye-laws were duly confirmed in accordance with the provisions of the Charter.

The PRESIDENT explained that the new Council, after its election in May, would have the opportunity of making any further alterations they might think necessary.

The proceedings then terminated.

* Messrs. Matthew Hedley and William Dewar accepted the degree of Fellowship, but sent in their names too late for the general election. Their application will be considered by the Council at its next meeting.

Alteration of the Bye-laws.

The following are the alterations, transpositions, omissions in, and additions to, the Bye-laws of the Royal College of Veterinary Surgeons. Copy suspended in the Council Room, September 20th, 1876. Adopted at a Special Meeting of Council held February 6th, 1877.

3. Any members of the College who may be desirous of having the names of any persons they may propose as members of the Council included in the list after mentioned, must give notice thereof, in writing, to the secretary at least twenty-one days prior to the Annual General Meeting.

4. Fifteen days prior to the Annual General Meeting, held on the first Monday in the month of May, the secretary shall prepare a list, stating the names and residences of the persons proposed, with the names of their proposers, and also of the members of Council who remain in office, as well as those who retire by rotation, with any vacancies arising from deaths, resignations, or other causes; and he shall within three days send a copy of such list to the registered address of every member whose residence exceeds a distance of five miles from the place at which the Annual General Meeting is held. All such voting papers must be returned to the secretary seven clear days prior to the day on which the election is to take place.

5. Every person on voting must erase the names of all candidates for whom he does not intend to vote. If more names are left in than there are vacancies in the Council, the paper will be rejected.

6. Voting papers can only be used by members whose residences are more than five miles distant from the place at which the Annual General Meeting is held.

7. Previous to the commencement of election of members of Council, the members of the body corporate assembled at the General Meeting shall choose from among themselves not less than six persons to act as scrutineers.

11. After the minutes have been read and signed, any correspondence and also reports from committees shall be read, and then the accounts and business connected with the property of the body corporate shall be considered; and the general business shall be proceeded with.

20. The Council shall also annually elect some fit and proper person to act as Registrar of the College.

22. Each examiner shall be elected for five years only, but be eligible for re-election; but any Examiner may be removed by the vote of two-thirds of the members present at any meeting of the Council, to be confirmed by a special meeting called for the purpose.

24. Each section of the Court of Examiners shall have a chairman and a secretary. The chairman of each division of the Court shall be elected by and from amongst its members. The secretaries shall be appointed by the Council.

26. Examinations shall be held in each year at such times as the Council may appoint.

29. No candidate shall be eligible for any examination unless a certificate of his qualification be signed by the principal of the college at which he has been educated, and transmitted by the principal to the secretary of the Royal College of Veterinary Surgeons acting for England, or to the secretary acting for Scotland, not less than seven days prior to such examination.

30. No candidate shall be eligible for any examination unless the examination fee be paid at least seven days prior to such examination.

35. In case of rejection the Board of Examiners shall report to the Council what further period of study ought to be required of a student before he is allowed to present himself for re-examination.

44. A list of the successful candidates, at each examination, signed by the chairman of the Court, shall be transmitted to the President, who shall, on receipt thereof, as applying to the first and second examination, order the candidate's name to be registered ; and as applying to the third examination, shall grant the diploma of the College to the candidate on payment of the fee for registration.

47. A student holding a diploma from any medical examining body recognised by law shall be exempt from attendance on the first year's course of lectures, and from the examination at the end of that year. A student holding a foreign or colonial veterinary diploma from any veterinary examining body recognised by the Council of the Royal College of Veterinary Surgeons, shall be admitted to the first and second years' examination without attendance on lectures—provided such course of instruction, foreign and colonial, has been not less than two years.

49. At least once in each year, at such time as may be appointed, the Council shall appoint a Special Court of Examiners for the purpose of examining candidates applying for the degree of Fellow. But no examination shall take place unless there are at least four candidates. This Special Court shall consist of not less than three members.

50. Each candidate other than a professor or ex-professor at a school affiliated with the Royal College of Veterinary Surgeons, will be required to produce a certificate of graduation in arts at a university to be recognised for this purpose by the Council, or a certificate of liberal education after an examination by the College of Preceptors under the direction and supervision of the Council.

51. The subjects for the examination in the degree of Fellow shall be fixed from time to time by the Council.

52. The fee on admission to the degree of Fellow shall be £15 15*s*. Prior to his admission for examination the candidate is required to pay a fee of five guineas, to be allowed on the fee for the degree of Fellow, but to be retained in case of rejection, and a further fee of £10 10*s*. on admission to the degree of Fellow.

53. The priority of Fellows whose diplomas bear the same date shall be determined at each examination by their place in the list sent in by the Court of Examiners.

YORKSHIRE VETERINARY MEDICAL SOCIETY.*

THE annual meeting in connection with this Society was held at the Queen's Hotel, Leeds, on Friday, Feb. 2nd. The President of the Society, Professor Williams, of the New Veterinary College, Edinburgh, occupied the chair, and amongst those present were Sir F. Fitzwygram, Bart. ; J. Leather, Liverpool : H. J. Cartwright, Wolverhampton ; C. Stephenson, Newcastle ; J. Gerrard, Market Deeping ; P. Taylor, Tom Taylor, W. A. Taylor, T. Hopkin, W. Dacre, A. Lawson, E. Faulkner, Manchester ; Ross, Scots Greys ; Poyser, Carabineers ; Whitfield, Army ; Atcherley, Harrogate ; Lodge, Dewsbury ; Newby and Brigg, Bradford ; Captain Hayes, and Dr. Percivall ; Messrs. T. Greaves, J. W. Anderton, J. S. Carter, R. W. Murdoch, W. G. Schofield, D. Spillman, J. Cuthbert. J. H. Ferguson, Geo. Carter, J. E. Scriven, J. L. Faulkner, J. M. Axe, T. Pratt, Peter Walker, Parlan Walker, Jas. Freeman, Josh. Freeman, W. Edmundson, C. Patterson, M. E. Naylor, W. Broughton, and four or five other names the Secretary did not obtain.

* This report was received too late for publication in last month's *Veterinary Journal*. The delay is not, however, attributable to the Secretary of the Society.

Apologies for non-attendance were received from Messrs. C. Secker, Jno. Faulkner, Fryer, Fallding, Ball, Jno. Schofield, and Jno. Freeman.

A resolution expressing the sympathy of the meeting with the bereaved families of Mr. W. Field, jun., and Mr. D. McLean, was passed unanimously.

Messrs. J. Atcherly, Harrogate, and W. Lodge, Dewsbury, were nominated for membership.

Before delivering his inaugural address, the Chairman detailed a few of of the symptoms of Epizoötic Cellulitis, which he said was very prevalent in Edinburgh just now. It was a form of disease which he had seen thirteen years ago in Yorkshire, but which he had not met with to any great extent during the interim. It was marked by great pain in the limbs; the whole body became exceedingly rigid, and the animal was very lame, standing upon one foot and then upon the other. In some cases which he had tried the temperature was as high as 106°, and in one case it was 108°. That was the highest temperature recorded. As a rule it was about 104 degrees Fahr. In some cases the limbs swelled very early; in others it was prolonged for four or five days. In one case that came under his notice there was great swelling of the head, and in another, the only fatal one out of 150 in ten days, there were ecchymosed spots upon the tongue. There was no cough, or rather it was the exception. If he remembered rightly, they all coughed in the Influenza of thirteen years ago. The prostration of strength from the commencement was very great indeed. In the course of a few hours the horse became almost entirely incapable, and even in those cases where pain in the limbs seemed to be absent the same marked prostration of strength was found. It rolled about from side to side, and the appetite was lost. He remembered very distinctly that when this disease was prevalent before, a simple dose of physic got the animal ailing from it well again. What got it through thirteen years ago seemed to get it through now. To move the bowels slightly seemed to clear the system of a lot of deleterious matter. In some cases where he had administered an aperient the animal was so exceedingly feeble that he almost hesitated whether to administer any medicine at all. Where there was a feeble circulation the tendency of the blood was to coagulate within the cavities of the heart and then to cause death. That, at least, was his experience in Bradford thirteen years ago, and what had led him to adopt the line of treatment which he had, and which had proved so far very successful. When the pain was very great, considerable relief was given to the limbs by fomentation with hot water, and by careful nursing and keeping warm. After dwelling on the fact that one of the causes of this disease seemed to be the saturated condition of the earth after a long wet, the Professor said he would be glad to hear any remarks from the members present on this disease.

Mr. GREAVES said the subject the President had brought before them was a very interesting one. In Manchester they had always Influenza more or less, and in all cases he found a tendency to constipation of the bowels. In their highly sensitive condition a small aperient would purge, and purge more than was desirable. He was in favour of carbonate of ammonia and cold water. Where the prostration was very great a small dose of whisky should be given.

The PRESIDENT then delivered his inaugural address, which was as follows :—

"Gentlemen,—Allow me to thank you for the kind manner in which you have elected me your President for the current year.

"I frankly confess that the presidentship of this Society is an honour to which I have long aspired, having been intimately associated with its founda-

tion, and taken a warm interest in its progress from its earliest days until the present time.

"It is now some fourteen years since a few of us met together in this town to consider what steps should be taken to organize a Veterinary Medical Society for Yorkshire; and from that period until my departure for Edinburgh in 1867 I had the honour and privilege of holding the office of your Secretary, and I shall never forget the pleasure which I felt when in 1866 you recognised my services by the presentation of a microscope,—an instrument which has proved of great service to me in many important and interesting investigations. During the period of my secretaryship I had the pleasure of more or less intimately knowing almost every member of the Society, and of holding much enjoyable intercourse with them. These days are, and ever will be, green in my memory, for they were unassociated with those cares and anxieties inseparable from the position of teacher, with its responsibilities and annoyances.

"Many of you will know that I never had any great desire to occupy a professor's chair, and that the fact of my leaving Bradford to become a teacher in Edinburgh was due to a course of events to which I need not refer, further than to state that the change was not of my own seeking, but was forced upon me almost against my will, for I was both happy and prosperous in Bradford.

"But although my acceptance of a professor's chair was not so gratifying as it would have been had I really aspired and been anxious for it, I honestly acknowledge, notwithstanding the unexpected difficulties, annoyances, and oppositions against which I have had to contend, that I do not regret having become a teacher, for by so doing I have had many opportunities of obtaining varied information, and of contributing some little towards the advancement of my profession. I feel quite sure that the course I have pursued has commended itself to you, and that you have manifested your approval of it by electing me your President.

"I am delighted to see so many old friends and familiar faces here to-day, but I miss some who took an active part in the organization of the Society, and who have since been removed from this world of care: the fruits of their efforts in the interest of the Society will live long. I refer to Messrs. McTaggart, Nicholson, Lord, Kay, Horne, and Taylor, all of whom assisted us at our beginning, and contributed more or less towards our success.

"The prosperity and increasing influence of this Society must be very gratifying to every one of its members, but more particularly to those who were interested in its foundation: it is very true that the movement for its formation received the support of the majority of the veterinary surgeons of Yorkshire, and much warm sympathy from those of Lancashire; but being the first society of the kind in England which published a record of its meetings, it was subjected to some hostile criticism—some opponents going so far as to say that it was established for the purpose of gratifying personal vanities, and that its life would consequently be short. There was another difficulty with which it had to contend, and one that might have led to very serious consequences, not only to the Society, but to the profession: this difficulty was only advanced by one gentleman, but he objected *ab initio* to have anything to do with the Society for the reason that it was not confined to members of the Royal College of Veterinary Surgeons,—that, in fact, its portals were opened to gentlemen holding the veterinary certificates of the Highland and Agricultural Society of Scotland. At this distance of time, when the Society has, as it were, lived down opposition, I state with great satisfaction that the admission by this Society of those holding the Scotch certificate has done more towards the advancement of the profession and the success of the Society than any other clause in its constitution. What would

have been the result if these gentlemen had been excluded, and if this exclusion had been followed by the societies afterwards established? Why, instead of having, as we now have, a profession which is becoming more and more united, and in consequence of this union has been enabled to assert its independence and overcome influences which had too long exercised their baneful effects, we should have had a continuance of two opposing interests, in fact two factions, more numerous now than then, and the profession would have been further divided than it was even twenty years ago,—that is to say, if any of it were left except those proportions which remained after the fight of the Kilkenny cats.

"Our Society having, by wise and liberal measures, secured its prosperity in the past, will, I am sure, continue a similar policy in the future, always bearing in mind that the success of societies depends upon a recognition of the great fundamental principle that societies, as well as living beings, consist of mutually dependent parts; and that whenever this principle is forgotten, and societies made subservient to the purposes of a party, or the personal ambition of any individual member rather than to the general good, such have ignobly sunk out of sight.

"Being expected, as announced by circular, to address you on a given subject (namely, "Do Contagious Diseases originate Spontaneously?"*), I will not detain you by entering into the politics of the profession, or the details of those changes which have taken place within the last year or so, further than to state that these matters have had the careful and earnest consideration of those who have the interest of the profession truly at heart, and to predict that if the history of our profession be ever written, the record of what was done in 1876 will form one of the most important parts of the book.

"Gentlemen, I cannot proceed to my subject without referring to the great loss which we have so recently sustained by the deaths of two of the Examiners—both young men in their very prime, and with every prospect before them of a long continuance of health and usefulness. I refer to Mr. W. Field, jun., of London, and Mr. Maclean, of Glasgow; and I feel sure that you will all accord your sincere sympathy with those to whom their loss is irreparable."

A discussion followed the reading of the address, and was taken part in by Mr. Stephenson, Mr. Naylor, Mr. Freeman, and Mr. Gerrard, all of whom expressed themselves in favour of the view taken by the President respecting the spontaneous origin of contagious disease.

Sir Frederick FITZWYGRAM said: "The President started with some observations on the origin of contagion; and on that subject alone I wish to make a few remarks, because it is a favourite subject of mine. I hold it to be quite impossible to discuss this subject in detail. It is always open for an opponent to say that the agencies which produced disease are so subtle that they may occur. I think the only light in which we can look upon this subject is a broad and general one. It is impossible to conceive that the generation of disease can be otherwise than spontaneous, unless we believe that Providence in the commencement of all things created each specific disease. If we do not believe these specific diseases were so created, it follows that the cause which originated them centuries ago can produce them again in the present time. I do not see, myself, very much use in going any further than that, nor do I see that we can avoid the belief that they may be originated spontaneously even in the nineteenth century." The hon. baronet then moved a vote of thanks to the President, remarking that no man in the present century had done more for veterinary science than Professor Williams.

* This address is published at the commencement of the Journal.

Mr. P. TAYLOR seconded the motion, which was unanimously carried.

The PRESIDENT briefly replied.

In the evening there was a dinner, at which Professor Williams presided.

After the usual loyal and patriotic toasts,

Mr. BROUGHTON (Leeds) proposed the toast of the evening—"The Royal College of Veterinary Surgeons." After speaking of the necessity of higher education, and noting with pleasure the institution of preliminary examinations, he said the Council had been engaged lately in considering the clauses of a Supplementary Charter—a measure which would confer upon the profession very great and new political privileges. He took the present opportunity of thanking Sir Frederick Fitzwygram and other members of the Council for their very great labours in bringing this matter to a conclusion. There was also another matter which the Council had instituted, and that was a degree in veterinary medicine and surgery. From this time forward they would have both members of the Royal College of Veterinary Surgeons and Fellows; but whether the Fellows would be able to walk into the stables, charge a guinea, and give advice, he did not know. The measure, however, would no doubt stimulate the veterinary surgeon to keep up and improve the scientific knowledge which he had derived at the hands of his teachers. Proceeding to speak of the gallant President of the College, Mr. Broughton said Sir Frederick Fitzwygram was one of them purely and solely from his love of the profession, and he thanked him for the exertions he had made to advance its status. He was sure they would all agree with him in saying they gave Sir Frederick a cordial welcome to Yorkshire.

The toast was drunk with musical honours.

Sir Frederick FITZWYGRAM, in responding, said: "Mr. President and gentlemen, I thank you for the marked kindness with which you have received the toast of the Royal College of Veterinary Surgeons, and also the name of your humble servant along with that toast. It is a great pleasure to me to be here to-night, and to see so numerous a gathering of Yorkshire veterinary surgeons at this conference. I wish I had the opportunity and time to go the round of the other veterinary associations, for I consider that almost a duty on the part of any one in my position. Well, I congratulate you upon the success of this meeting. I believe that these meetings are of the greatest possible advantage to the veterinary profession, both on account of the papers which are read at them and which are extremely valuable in themselves, and on account of the feeling of friendship which they promote amongst the members of the profession. But standing here as the representative of the Royal College of Veterinary Surgeons, I think you will probably expect to hear from me something of the proceedings of the Council during the year which is now drawing to a close. During the year, gentlemen, we have endeavoured to obtain a new Charter. In that Charter we ask for some four principal and several subsidiary objects. The first and greatest of these objects is that the Council shall be elected by the votes of the profession, and not by the annual general meeting of those who might live in the neighbourhood of the meeting or be able to attend it. By transferring the election of the Council to the profession at large, we shall excite amongst you all a warmer interest in our proceedings. And allow me to say that whilst we have transferred the election from London to the profession at large, I think the Council are entitled to a certain amount of credit for having kicked down the prop which supported them in their places. The second object of the Charter is the creation of a higher diploma. The sister profession has long enjoyed the advantage of a higher diploma. It has been found to stimulate the young men after they leave the schools to go on and progress in their education; and it has also the advantage that those outside the profession, when they employ one who has passed that second and severer

examination, have the certainty that they are employing well qualified, practical men. The third object we had in view was to be able to hold the annual general meeting in Scotland or Ireland. It was felt that Scotland and Ireland were to a certain degree, by the previous constitution of the Charter, left out of the ship; and in my opinion the national Scottish feeling in favour of the Highland and Agricultural Society has been mainly due to the fact that our head-quarters are in London. I think that feeling is an evil to the profession. I believe that by the salutary measure of holding—perhaps once in three years—our annual meeting in Scotland, we shall be able to soften down that feeling; and I have no doubt that before long the Highland and Agricultural Society will see the advantage of placing their diploma, or rather their certificate, in the hands of the Royal College. There was a fourth object which we had in the Royal Charter, which was known as Clause 13. That was a clause which we introduced into the Charter to give protection to veterinary surgeons against unqualified men. I believe the Council sincerely desired to carry that clause; and the profession at large were exceedingly desirous that that clause should be carried. But on submitting it to the legal adviser of the Council, he told us that no Charter granted by the Crown could confer that power in any way. The Queen is the source of all honour; she can bestow rights and privileges, but she cannot in this country—this free country—impose a penalty on any British subject. A penalty on a British subject, I am thankful to say, can only be imposed by the consent of the Queen, Lords, and Commons. In consequence of that we withdrew the clause. I believe that there is a strong feeling against the Council because they withdrew that clause; but inasmuch as the body to whom they applied —the Privy Council and the Crown—had not the power to grant it, I think you will agree with me that that feeling is wholly undeserved. As I have said, the Council are very anxious, I am very anxious, and I know the profession is very anxious, to obtain that protection; and, as far as my vote and influence goes, I shall be very happy to assist in getting it. But I do not believe much in protective legislature: I do not believe that in this country protective legislation acts very far. I believe the best qualified veterinary surgeons do not demand this protective measure. With regard to those who do not command the confidence of their customers, I very much doubt if they would receive any very much greater amount of confidence if this Act were passed. I am perfectly willing to assist in trying to get this clause, but I do not believe the profession will find it to be all that they expect. In the sister profession they have got such a clause as the one we wish to get; but in the sister profession there are seventeen or eighteen licensing bodies, and each of these has the power to grant licenses to practise. The principal clause which is found in the sister profession is that which created a general register. But that general register we have already. It was considered a very great advantage that any person could find out at once, by means of this general register, whether a person was or was not a qualified man. Well, in regard to veterinary surgeons, as we have only one examining body, we have that register ourselves, and anybody can ascertain at once whether a person calling himself a veterinary surgeon is really qualified or not. The second question that has been before the Council this year has been the application of the Highland and Agricultural Society for power to grant diplomas. I think that in this matter that Society did not behave in a very handsome way towards us. When we applied for our new Charter, we wrote a note to the Secretary, sent him a copy of the proposed Charter, and explained the whole matter to him, and asked if he had any objections to what we did. But when the Highland and Agricultural Society applied to the Privy Council for a Charter, they kept the matter perfectly secret. We never heard a word about it from them, and only found out through a short notice in a Scotch news-

paper that they had applied for a Charter. On making inquiries, we found it was necessary to resist it at once. We asked for an interview with the Duke of Richmond, and laid before him our objections to the Charter. He appeared to be impressed with what we said, and asked us to state in writing the objections which we had against the Charter. Subsequently they were reduced to writing, and I dare say you have all read them. I honestly confess that I troubled myself no more about the matter, because I felt the Charter would not be granted; and it has not yet been granted. The question is now settled for a certain number of years, because it is the custom of offices like the Privy Council, when an application has once been refused, not to listen to a fresh application until new reasons can be given, or until after a lapse of ten or twenty years. I may say this: that if the Highland and Agricultural Society were unable to obtain a Charter from the Privy Council, even though the great Scotch nobleman the Duke of Richmond, who has been president of the Society, is at the head of the Privy Council, I do not think there is any likelihood in the world of their ever getting it. I regard the diploma given to the Highland and Agricultural Society as a very great evil. It breaks up the unity of the profession. I was in hopes that when the Charter was refused the Highland and Agricultural Society would have had the good sense to give up their examination; but I see that they have determined not to do so. One of the subjects which has occupied the Council has been the increased period of study. You are aware that many years ago, when veterinary science was first studied, a single year was considered sufficient to qualify a man. The period was then raised to a year and a half, where it rested some time. The next great change made was the introducing of two examinations instead of one. Now the period of study has been extended to three years. The objection to that increase was that veterinary surgery students could not afford the extra expense of the fees, and, secondly, that they could not afford to be so long out of remunerative employment. We find, however, that there are now entering our schools a class of students who can afford to pay for a three years' tuition, and that being the case, we had no hesitation in deciding upon the three years being adopted as the period of study. It is proposed that the first two years should be devoted to what I may call school-learning, and the third should be given up to the study of pathology, instruction in diseases, and practical knowledge. The great complaint which has hitherto been made against veterinary surgeons is that, although they may have science, they have not practical knowledge—at least when they come up for examination at the College. At these examinations some of the simplest practical questions are asked of students, and I am sorry to say that they are sometimes unable to give an answer. I am not, therefore, surprised if people outside the profession choose to employ unqualified men in preference to thoroughly qualified men who lack, however, practical knowledge. Not long ago a young man in the profession was asked the age of a horse. He replied it was about eight years, or it might be more. He had not the slightest idea how old the horse was. The other subjects which the Council have been considering are also worthy of mention. One of these is the amalgamation of the Scotch and London Boards. I regard that myself as a matter of prime importance. I think it is absolutely essential we should be quite sure the student's examination is the same in London and Edinburgh. If, then, either school complains that its students are rejected, the school complaining may feel quite sure that the fault lies with the students themselves, and not with the Examining Boards. As regards the medical portion of the examinations, I am afraid we shall never be able to bring about an amalgamation, because the medical examiners are so much employed that I do not think we could get them to come from Edinburgh to London, or from London to Edinburgh. But as

regards the veterinary students and the examiners, we have succeeded in getting two of our London examiners to go to Edinburgh, and I believe we shall succeed in getting the Scotch schools to send two examiners to London. Now I just want to say a few words about fellowships. We have not recommended for fellowship a single Fellow from private prejudice or friendship. What we have endeavoured to do is to select gentlemen who have in some way or other been honoured in the profession. First the President, then those who have been three times honoured by the profession by election to Council, then those who have a certain amount of standing in the profession—such as examiners or professors. There are one or two other qualifications which I do not recollect at this time. Since I have been sitting here a suggestion has been made to me by Mr. Greaves that prizemen at our different schools should be added. I think it is a very admirable suggestion. There is another subject to which I wish to refer, and that is the subject of fees. Hitherto the fees for veterinary students have been placed on a very low scale. I think the lowness of that scale is objectionable on several grounds. I think an increase in the fees would in all probability furnish us with a more highly educated class of students. If we are to give a high class of educacation, such as may be given in three years, it is essential the students should possess the education and capacity to profit by that instruction. But I wish to urge the increase of fees on another ground—namely, that very much more work has been thrown upon the professors by reason of the increased examination. In the old days there was only one class ; it was then increased to two ; and now if the number is increased to three, three times the number of lectures will necessarily have to be given, and the burden of the professors largely increased. I think that we should aim at placing the fees at such an amount that the schools may have for their professors the very best men found in the profession. I do not know what the present salaries of the professors are, but I think no professor ought to have less than £600 a year, and a junior £400 a year. I learn from my friend Mr. Greaves that when he wished to possess an eminently qualified young man he found it necessar y to give £400 a year. If that is the case in private practice the schools must expect to pay as much if they wish to get the very best men ; and for the instruction of the rising generation it is absolutely essential to get the very best professors we can. I believe that, on the whole, the Council during the past year have tried to do their best. As regards the future of the profession, I believe there is a bright prospect open to it. But if the profession is not merely to hold its own, but to be raised to that level which, I think, it ought to hold among the great and learned professions of the nineteenth century, we shall require the most earnest exertions of every man in the profession. Gentlemen, once more, on behalf of myself and the Royal College of Veterinary Surgeons, I have to thank you."

Mr. Jas. FREEMAN proposed "The Examiners," which was responded to by Mr. T. GREAVES.

Mr. M. E. NAYLOR proposed "The Veterinary Schools," which was also drunk with musical honours.

Professor WILLIAMS, in responding, said, with reference to the observation of the last speaker that he was sorry there were so many schools, particularly in Scotland, *he* was also sorry, being of opinion that one great institution would be better calculated to do good than several small ones. They were all aware that he was compelled by circumstances, to which he need not refer, to establish a second school in Edinburgh. This had so far been crowned with a much greater success than he ever expected. A good deal had been said about professors, but there were two sides to every question. A professor ought to do his duty, and ought to lecture upon every legitimate subject, according to what he had promised to do ; but at the same time if

an angel were to come from heaven and lecture to some students it would be of no use. How could they make bricks without straw? It required both students and teachers—the one to receive, the other to give. He was in favour of increased fees. The quality of the students would be improved, and the professors better paid.

The other toasts were "The Veterinary Profession," proposed by Mr. C. Stephenson and responded to by Mr. T. Hopkin; "The National Benevolent and Defence Society," proposed by Mr. Cuthbert and responded to by Mr. P. Taylor; "The President," proposed by Mr. J. S. Carter and responded to by Professor Williams; "The Visitors," proposed by Mr. J. M. Axe and responded to by Mr. Poyser; "The Ladies," proposed by Mr. W. G. Schofield and responded to by Mr. Spillman.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of this Association was held at the Blackfriars Hotel on January 17th, the newly-elected President (Mr. T. Hopkin) in the chair. There was a very large attendance of members of the profession—so large, indeed, that the meeting-room could scarcely accommodate them all. Among those present were Messrs. G. Heyes, Morgan, C. Elam, T. P. and W. A. Taylor, J. and A. Lawson, Locke, Roberts, Greaves, Faulkner, Woods, Whittle, Bunnel, Fleming, Mulineux, J. B. Taylor, Schofield, Woolner, Atkinson, the Secretary, etc.

Letters of excuse were read from Professors Walley, Williams, McCall, Simonds; and Messrs. Stanley, Barnes, Reynolds, Walker, Welsby, Gerrard, and Col. Fitzwygram, Bart.

The PRESIDENT delivered the following address:—

"Gentlemen,—Eloquence is not born on the lip, or knowledge in the brain, and you have called upon me to fill this important post before I have acquired much of either. You must, therefore, deal leniently with me, and exercise very largely that inestimable virtue 'patience.' Looking at the veterinary profession of to-day, we see much that needs doing before it will be just to itself and have attained a state of efficiency to satisfy even its present members.

"If we compare it with what it was some years back, we can then see the great and important changes that have been made. The very foundations of the old structure have been relaid, and barriers erected to keep the ignorant and illiterate from swelling our ranks. You will see how necessary this was, when you think that in a few years the children of our streets—thanks to the Compulsory Education scheme—will possess an education quite equal to what has made many a good 'practical veterinary surgeon.' The last time I addressed you I pleaded for 'practical men'; and as we want men for the veterinary profession as *nearly perfect* as it is possible to get them, I go still further, and say they ought to have the *foundation* that a classical education alone can lay. This ought not to prevent a man making a thoroughly successful practical veterinary surgeon. The plea so often urged, that it unfits him for much of the work a veterinary surgeon is called upon to perform, will in time give way. The place and manner in which a classical education is often gained would perhaps do more to unfit him than the education itself. A well-trained mind should be no barrier; but a career at one of our universities—associating with those who are not destined to win their own bread—would unfit some young fellows for working in our profession. I would just ask, in passing, is our work necessarily of an unpleasant kind? A good share of that done by some veterinary surgeons is in reality more in the province of the nurse, *alias* groom or blacksmith, than the veterinary surgeon.

"If we want minds capable of dealing with the difficulties of science, those minds must be cultured and trained before they come to the study of science. The Marquis of Ripon, speaking the other day, said, 'The education given to the middle classes is barely enough to enable them to commence their real education, when they are leaving school and going out into the world.' Ask any man with ambition, and who has received but an indifferent education in his youth, what has been his experience, and he will tell you of hard toiling to acquire what another, who has had his mind properly trained, accomplishes with scarcely an effort.

"The field is vast enough for the best trained and highest intellects; and we look upon those in our ranks with pride who are trying by careful, patient, persevering labour to win from science her secrets. You will all agree with me that one of the best qualifications for this would be a mind accustomed to systematic mental exertion. Again, the Educational Committee's report says that those who are desirous of becoming veterinary surgeons must be examined in some sixteen or seventeen professional subjects. Now, to thoroughly master these, and pass creditable examinations, you require youths whose minds have been fairly cultured. A man may forget his Latin and Greek, but his mind will never lose the benefit accruing from such a training.

"This naturally brings us to the preliminary examination, which certainly lacks the healthy tone that it would gain if placed in the hands of a purely disinterested party.

"The schools ought to have no more to do with the preliminary than they have with the professional examination; and it is be hoped that the mistake of leaving this nominally in the hands of the various professors will soon be rectified. If the professors are, as I take them to be, men with the interests of their profession at heart, they will give this change their unanimous support.

"Much has already been said on the desirability of some steps being taken to prevent unqualified men usurping our title and our rights. With more stringent examinations, more candidates will be rejected, and the country will be infested with 'quacks.' One of the difficulties would have been the opposition of the Scottish section, because of its shutting out from practising those holding the Highland and Agricultural Society's certificate. Could not the thing be framed so as to admit the present holders of the Scotch certificate, provided *they discontinue granting them?*

"When the Council find how earnestly action in this matter is looked for, and how, to a man, the profession would support them, we shall no doubt soon hear of some effort being made to remove this, one of the injustices to which we, as a body, have to submit.

"Our profession has not yet taken the position it is destined to occupy, but we trust we may, without fear, regard the future as big with promise; and more especially if each member will only consider his own individual responsibility, and that on the character of every separate veterinary surgeon is built the veterinary profession.

"It has been to me a source of great pleasure for some time back to know that we should be honoured by such a guest to night as Mr. G. Fleming, a man who has evinced his love for the profession, to which he is an honour, by being first in every work that tends to raise and elevate it. With characteristic kindness he offered to do anything that he could to add to the interest of this meeting and the benefit of those attending it. I, therefore, have much pleasure in introducing him to you."

Mr. FLEMING, Royal Engineers, then delivered an extemporaneous address on "The Sanitary Aspect of Veterinary Sanitary Science in connection with State Medicine," in which he pointed out the great importance of

veterinary science at the present time, and its value to the public. The benefits it might confer, however, were not made available, simply because, as a science, it was scarcely yet recognised in this country. The absence of this recognition was a national calamity, and the losses incurred thereby every year were enormous. Not only was there an appalling loss of valuable property, but it could not be denied that the public health also suffered from this neglect. What with unhealthy food—flesh and milk—and the increased price of these—mainly due to the existence of suppressible and preventible diseases among animals, as well as the prevalence of maladies which are transmissible from the domesticated creatures to mankind—there could be no doubt whatever that the relations of Veterinary Sanitary Science to State Medicine were of a very close and important nature indeed. He particularly insisted on veterinary surgeons pressing their claims to recognition in this direction, and urged that medical men should not be allowed to dominate or control them in a matter which was solely their own, and on which these men were not at all informed. He gave instances in which the public welfare had suffered severely from this mistake of placing the investigation or suppression of disease among animals in the hands of those who were utterly incompetent by their training for the task; and, finally, earnestly insisted upon the urgent necessity for veterinary surgeons qualifying themselves in every way for the great and noble work they had to accomplish, and which would certainly be looked for at their hands if their claims were to be allowed.

This address, which occupied a considerable time, was listened to with great attention, and some valuable comments and illustrations were furnished by many of those present.

A cordial and unanimous vote of thanks was accorded to Mr. Fleming.

The members and guests afterwards dined at the hotel.

THE SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE annual general meeting of this Society was held on February 14th, in the London Hotel, Edinburgh—Mr. Balfour, Kirkcaldy, retiring President, in the chair. The other members present were—Professors Walley, Williams, Johnson, M'Fadyean; Messrs. Baird, Balfour, A. Balfour, jun.; Cunningham, Mitchell, Black, Young, Brown, Aiken (Edinburgh), Borthwick, Boyd, Melrose, Stone, Connachie, and Cumming.

Miscellaneous Business.

The SECRETARY (Mr. C. Cunningham, of Slateford) read several letters of apology from absent members, after which the minutes of the last quarterly meeting were read and approved. Professor Williams moved a vote of thanks to Mr. Balfour for his conduct in the chair during the last twelve months; and this having been seconded by Mr. Cunningham, was cordially agreed to. Mr. Balfour replied in appropriate terms, and thereafter vacated the chair in favour of Mr. Cunningham, who had been nominated at a previous meeting. Mr. William Cumming, Treasurer, was then elected Secretary in room of Mr. Cunningham. The following gentlemen were elected members of the Society:—Messrs. Connachie (Aytoun), Reid (Leith), M'Intosh (Dumfries), Dalling (Bathgate), and Professor M'Fadyean. Messrs. Mitchell (Bathgate), and P. Moir, of the Royal Repository, Edinburgh, were nominated for election. The Treasurer's statement showed a balance in favour of the Society of £21 5*s.* 5*d.*

Interesting Cases.

Professor WALLEY brought under the notice of the members a blood tumour taken from the heart of a cow. It was situate underneath the endocardium under the right auricle, and he had noticed reference made to a similar tumour in last month's *Veterinary Journal*, which was spoken of as having been a very large one. The one which he had submitted was almost as large as it was possible to find in the position indicated. It was in close connection with the base of the right auricle, and had been formed in the first instance by extravasation of blood underneath the lining membrane, which had given way, producing a rough surface, upon which successive layers of lymph were deposited. The centre portion had somewhat of a homogeneous appearance, but the layers could easily be traced. It was the largest one he had ever seen in that position, and he thought it was quite as large as that recently described in the *Veterinary Journal*. The next case submitted by the Professor was a portion of the trachea of a horse, in connection with which he intended to exhibit the larynx, but this he had inadvertently left behind. The animal from which this had been taken was a grey Belgian horse—a valuable animal, which during last winter was attacked with ordinary cold. After a time it became evident that the animal was suffering from throat affection, and experienced some little difficulty in respiration. This difficulty was traced or localised in the throat, and on the recommendation of Mr. Baird and himself, the operation of tracheotomy was performed by Mr. Baird. Since then (the summer) the animal had been daily worked with the tracheotomy tube in his throat. On the previous Sunday morning week, however, the horse was found dead in the stall and the tube was nowhere to be found. The horse was sent to the tanyard, and on examining it on the following day, Mr. Walley found the larynx cut up. Some one professing himself to be a veterinary surgeon had volunteered the suggestion that the horse had swallowed the tube. How the tube could have got inside the animal was a mystery, but following out this idea the so-called veterinary surgeon had cut up the whole length of the alimentary canal with the object of discovering the lost tube. The lungs were served in like manner, and in consequence the bronchial tubes were so hacked about that a satisfactory examination could not be made. Some one went away with the idea that the lungs were rotten; but, on the contrary, they were in beautiful condition—there was not the slightest trace of disease, the structure being perfectly healthy and firm. The larnyx was hacked and chopped up into several pieces, but it presented a beautiful ossifying encondroma or bony tumour, which had entirely obliterated the aperture of the larynx. The trachea at the site of the operation was greatly thickened and in part bony, with a considerable amount of extravasated blood around the orifice; and adherent to its interior there was a large clot of blood. Although no blood clots were found in the bronchial tubes, Professor Walley's opinion was that they had been there, and had produced death by suffocation. The aperture had become so grown up that inspiration of air would be impossible. It was satisfactory to find that their diagnoses as to the localisation of the disease were quite correct. The mere removal of the tube for several hours might have caused the animal's death, without clotted blood passing into the lung. The peculiar change which had taken place in the trachea as well as in the larynx rather pointed to a constitutional taint.

Professor WILLIAMS referred to what he conceived to be a similar case. A horse in his stables had worn the tracheotomy tube for some months after an operation. The tube was taken out to be cleaned, and some difficulty was found in reintroducing it, as the aperture had become exceedingly small. On making an incision into the trachea, to get the aperture enlarged, there

was such an amount of hæmorrhage that the horse must have lost at least a bucketful of blood—owing, no doubt, to the increased vascularity of the part from the intrusion of the tube. They dare not introduce the tube under these circumstances ; so that it was quite possible that such a state of things might be due to the increased vascularity of the part, without the animal having been tampered with in any other way.

Mr. BROWN suggested that a spiral wire covered with cloth should be introduced into the tubes referred to, so that they might be cleaned by simply removing the wire instead of having to take out the tube. That, he thought, would lessen the danger consequent on the removal of the tube.

The Horse Epizoöty.

Professor WALLEY, at the request of the members, referred to the horse epidemic now raging in Edinburgh. Instead of the word "epidemic," he was of opinion that the word epizoöty should be used with reference to animals. So far as his practice in Leith went, the outbreak was for long confined to the north side of Leith, especially the north side of Constitution Street. It afterwards began to spread on the south side, involving the isolated districts lying between. It did not locate itself in any particular stable, but after it commenced he had known it go through a whole district and not leave a single horse untouched. He had also known it affect only one horse in a stable, leaving the rest free ; whilst in other cases at least half the horses were attacked. In this respect the outbreak had shown a very great peculiarity. Another peculiarity he noticed was, where it attacked two cows in the same place. The fatality of the infection was always a matter of very great importance, and the disease had shown that in the absence of proper treatment, and where the animals were not taken great care of, it could assume a very virulent and very destructive character. In his own practice he had only lost two horses, both old animals, which had suffered from previous chronic disease, one having broken-up lungs, and the other old standing dilatation of the cæcum. Another remarkable thing in connection with the localisation of the disease was a primary tendency to attack previously diseased structures. In many cases its symptoms were confined to the exterior of the body ; in others it localised itself in the intestines ; whilst in very few cases it seated itself in the lungs, and in a few instances in the liver. In those cases where it was localised in the intestines colic was the primary symptom, accompanied by constipation—in one animal three days having elapsed before any fæces were passed. The bowels were in such cases from half an inch to an inch thick, owing to the effusion underneath the mucous membrane. The nature of the disease was purely and simply an epizoötic and effusive Fever in every sense of the word. With regard to the febrile symptoms, some of his cases had been very marked, the temperature running as high as 106 to 107 for four or five days. The mouth was always hot and dry, as in most fevers, and had a somewhat peculiar odour. In the course of four or five days the mouth became sometimes more or less moist, and the disagreeable odour passed off. The eyes were always injected, and frequently of a yellow tinge. The fæces at the outset of the disease were passed in the majority of cases in small quantities, and often coated with mucus, and sometimes tinged with blood. The pulse was always quick in these cases, running up to 60, 70, or 80, and was very weak. Respiration was not much interfered with, beyond being a little quick, unless the disease localised itself in the lungs. He also noticed that the animals evinced great uneasiness, amounting to inability to stand for any time in one position. Some recovered so far in two or three days as to be able to eat with avidity—some eating more than was good for them. The

conjunctiva of the eye was nearly always infiltrated with serum, and in some cases the cornea also, to such an extent as to cause it to assume a pendulous or baggy appearance. The lymphatics of the fore-arms were always prominent. These were what he considered to be the principal symptoms, though there might be a few others which had escaped his memory. With regard to treatment, he had never resorted to bleeding, although this had been suggested. Generally he administered laxatives at the outset; and whenever that operated freely, the animals made a more rapid recovery. They were allowed plenty of cold water, and whatever food they chose to take. Otherwise the treatment was of an eliminative and stimulating character, as the animals would not bear sedative or lowering treatment. Where there had been previous weakness, or where the constitution was bad, he administered gruel, eggs, and whisky, but he did this only in special cases which required such treatment. Where the disease was localised in the intestines, he had adopted such remedies as turpentine and hot fomentations, and where the lungs were affected, counter-irritants were applied, alternated with hot fomentations, with good effect. If the animal was the subject of a wound, such as a "slough," the wound almost invariably took on unhealthy action for a time, rendering lameness extreme. On a *post-mortem* examination he had found no indication of the inflammation of the cellular structures, except as a secondary result, or where disease previously existed; but he found general systemic effusion, and occasionally extravasation of blood, the blood itself being imperfectly coagulated. The broken-winded horse referred to recovered from the primary attack, but succumbed to the secondary lesions. It was interesting to note that in many cases in different parts of the country and surrounding districts, where the animals had been neglected, they died, and it was all very well to say that the disease was mild. So it was under certain conditions, but experience had shown that it was not to be trifled with.

Professor WILLIAMS intimated his intention to read a paper on this subject at a future meeting.

The newly elected PRESIDENT then delivered an address, in which he referred to the outbreak of Influenza. In a district where hard work, heavy feeding, and, if possible, no rest was the order of the day, no deaths had occurred out of seventy or more cases—due, he believed, to the prompt stoppage of work the moment anything was seen to be amiss. In these circumstances the epidemic was of a comparatively mild form, running a regular course of from four to ten days, requiring simply good nursing and occasional stimulants. He noticed that "quarter" horses on farms, or those in carters' hands going in and out from Edinburgh, were generally among the first attacked, this seeming to point to contagion or infection; but other facts were against it. Another disease, causing more trouble and anxiety from its fatal character and the valuable animals it attacked, had been much more frequently met with this winter than usual—namely, that which was called Hysteria, or by Principal Williams Nitrogenous Urine. Pleuro-pneumonia still existed among us. In the byres of a certain class of dealers and dairymen might be found, he thought, the cause of a good deal of it. These worthies hid the existence of the disease when they had it, sold off all the other cows that would sell if they could, and disposed of the diseased ones in the best way possible; and if they could get compensation besides, had not they a nice laugh over it? They thought they were very clever! They did not seem to see that they were travelling in a circle, for as they did to others so would others do to them. Let the owners of diseased cattle deal openly and at once with the inspectors and local authority, and let the local authority deal kindly and liberally with them, and another very important step would be achieved in the suppression of the disease; but so long as

this hide-and-seek, cat-in-the-manger policy existed, much good that might be done would be left undone. Rinderpest was spreading in London. He hoped it would never reach them, and he need scarcely say, "Watch, be on your guard; try everything, do everything to detect and, if possible, prevent it from getting a footing, if it ever should come." In conclusion, a feeling allusion was made to the loss sustained by the profession in Professor Fordie, Glasgow; Mr. Aitken, Kilmarnock; Mr. D. Maclean, and Mr. Cockburn, Glasgow, who had died during the past year.

Professor WILLIAMS moved a vote of thanks to the President for his excellent address, containing many matters of vital importance to the profession. He often laughed on seeing in the *Scotsman* and other papers the announcement that Pleuro-pneumonia had broken out at Wishaw, Dysart, Perth, and so on, when it was the fact that there were cases of it every week in Edinburgh. He thought the attention of local authorities might very well be directed to what was but too prevalent—the practice of taking cattle into infected byres. The thing was said to be illegal, but the Act of 1869 gave no power in such cases. He thought, however, there would be no difficulty in getting the Act extended so as to afford such power, without which there was little hope of their being able to cope with these outbreaks.

Principal WALLEY, in seconding the vote of thanks, corroborated these remarks. He ridiculed the present restriction of thirty days regarding infected buildings, and specially referred to the absurdity of allowing fresh animals to be put in infected byres, as it was only providing fuel to feed the fire, and perpetuating the disease.

The vote of thanks was carried unanimously, and on the motion of Professor WALLEY, seconded by Mr. BAIRD, a vote of condolence was passed to the relatives of the late distinguished members of the profession whose loss was deplored in the President's address.

The PRESIDENT having briefly responded to the compliment which had been paid to him,

Professor WALLEY gave notice of a motion relative to the advisability of establishing a Scottish branch of the Veterinary Mutual Defence Society, and promised to lay the objects of this before them at their next meeting.

MONTREAL VETERINARY MEDICAL ASSOCIATION.

THE above Association held its regular fortnightly meeting on Jan. 25th, the President, Mr. D. McEachran, in the chair. There was a large attendance of members and visitors present, among whom were noticed J. M. Browning, Esq., President of the Board of Agriculture, and E. Banard, Esq., Director of Agriculture, Quebec.

The following papers were read:

Mr. D. S. BROWN, of Illinois, read a communication on the "Removal of a Cartilaginous Tumour from the Eyelid of a Horse." The case was a very interesting one to the profession, owing to the operation having been performed under the influence of chloroform.

Mr. C. C. LYFORD, also from Illinois, read a most scientific and well-prepared paper on "Elephantiasis," describing the disease, its causes and mode of treatment minutely. The speaker, in course of his remarks, exhibited microscopically some excellently prepared specimens of the disease, showing the marked difference of the tissues in health and in the disease under consideration. Plaster castings of the disease were also exhibited to the members.

Mr. SWINBURN, V.S., communicated a case of "Break-down," accompanied by fracture of the sesamoid bones, which was considered interesting owing to its rarity.

At the next regular meeting, Thursday, Feb. 8th, Mr. John Ryan read a paper on "Specific Ophthalmia"; and Mr. C. J. Alloway, V.S., a communication on "Congestion of the Lungs."

The Association held its next fortnightly meeting on Feb. 22nd, in the lecture room of the College, the President, Professor D. McEachran, in the chair, with a good attendance of members present.

The PRESIDENT, on behalf of Williamson Bryden, Esq., V.S., Boston, presented to the Association two very valuable books—"Ringer's Therapeutics" and "Wood's Materia Medica."

Mr. WM. A. MURPHY, of Boston, communicated a case of "Acute Laminitis" successfully treated by himself last summer.

Mr. D. S. BROWN, of Illinois, read a very instructive paper on "bots," in which he described the different varieties of the fly and chrysalis, illustrating his remarks on their structure by diagrams, the living larvæ and microscopic preparations. He gave a minute description of these curious entozoa, and offered several original remarks on the subject.

In commenting on the paper, the President suggested that it should be published in the *Veterinarian* and the *Veterinary Journal*, and that microphotographs be prepared to illustrate it for the benefit of the profession.

The PRESIDENT called the attention of the Association to the prevailing enzoötic disease in the horses in the city at present, and explained that it was varioloid in character and resembled closely Small-pox in its nature; that it was known by the name of *Variola Equina*. He suggested that by inoculating cattle with the lymph, vaccine might be produced for the use of the medical profession. He called attention to two instances in which the grooms had become inoculated, one on the face and neck, the other on the arm; in both the vesicles resembled in all respects those produced by vaccination.

At the next meeting, on March 8th, Mr. Charles Levesque, V.S., of Berthier, was to read a paper on special operations.

ROYAL AGRICULTURAL SOCIETY.

AT the monthly council meeting, held on March 7th,

Mr. WELLS (Chairman) reported the satisfaction of the Committee at the prompt and energetic action of the Privy Council in stopping the fairs and markets in the East Riding of Yorkshire, especially the great York market, which would otherwise have been held on the 22nd February. They learnt also with satisfaction that the President of the Council had stopped all fairs and markets in Lincolnshire, that no fresh cases had occurred in the Metropolis since last week, or in Hull since the 27th February. Mr. Duguid reported that he had visited Chelmsford to inspect some animals stated to have died from Cattle Plague, but he found that the disease was Splenic Apoplexy, and that proper measures to restrict the progress of the outbreak had already been taken. This report having been adopted, the Chairman added that subsequent to the meeting of the Committee the following notice had appeared in the *London Gazette* of Tuesday night :—"Since the notice in the *London Gazette* of the 27th of February last Cattle Plague has been detected in a dairy at Bow, and in a dairy at Hackney, both within the Metropolis; also in a dairy at Hull, Yorkshire."

Mr. RIDLEY, M.P., asked the date of these last outbreaks of Cattle Plague, as they were not stated in the *London Gazette*, and he thought the Council might fairly ask the Privy Council to publish in future the dates of such outbreaks.

Mr. BOWEN JONES then moved the following resolutions, of which he had given notice :—"That a memorial be presented by this Council to the Government, calling attention to the insufficiency of the present regulations for the prevention of the introduction and spread of contagious diseases in cattle, and urging upon it the necessity of insisting—1st, That any live animals imported into this country for food shall be slaughtered at the ports of debarkation; 2nd, That to prevent the exclusion of valuable store stock, such stock may be imported under license and subject to quarantine at certain ports, which shall be set apart for the purpose; 3rd, That uniform and compulsory measures shall be enforced throughout the kingdom for the suppression of contagious diseases in cattle." He had thought it better to bring these resolutions before the Monthly Council than before the Special Council, which had been so wisely called to meet on the 20th of last month, because they applied more to the general policy than to the specific outbreak of Cattle Plague which that Special Council had been called upon to deal with. The first resolution did not entirely embody his own views, but he had been given to understand that he might receive more support from other members of the Council by advocating the slaughter of cattle at the ports of debarkation instead of the ports of embarkation. Up to the 16th of January sheep and goats from Germany could be landed in England, and if found healthy, after twelve hours' detention, could go into all parts of the country, with the danger of carrying infection with them. He felt that there were other diseases of stock to be taken into account besides Cattle Plague, and that with regard to Pleuro-pneumonia and Foot-and-mouth Disease, the slaughter of animals at the port of landing would cut off the great source of infection. The detention of twelve hours' duration was often insufficient to enable disease recently engendered to be detected at the port of landing, and therefore both the farmers and the consuming public suffered immensely from the diseases thus imported into English flocks and herds. If this resolution were carried, the officers of the Veterinary Department would have more time to attend to the home flocks and herds, and the diseases to which they are naturally subject.

Mr. HEMSLEY having seconded Mr. Bowen Jones's resolutions,

Mr. JACOB WILSON referred to what had taken place at the last Council meeting. He reminded the Council that the resolutions then proposed by Mr. Bowen Jones were withdrawn, partly that the Council might be enabled to go to the Government with an undivided front, and partly in the hope that the regulations made by the Privy Council would prevent any further outbreak of Cattle Plague. This hope had not been fulfilled ; and the general opinion in the country now was that nothing short of total prohibition would meet the case. Special attention was being directed in every district to the outbreak of Cattle Plague which was now threatening us, and it appeared that a cargo consisting of diseased cattle and various merchandise, together with passengers and crew, might carry contagion all over the country, owing to the laxity of inspection in foreign countries. But even good inspection was not always sufficient to stop the importation of disease, and stronger measures than those now in existence were necessary for the protection of English herds. He would draw the line at the European ports, as at present they were quite helpless, with no stronger protection than slaughter at the ports of debarkation in England. He regarded the "following" policy of the Government, instead of the "leading" policy, which they should adopt, as a mistake ; but he recognised the prompt action of the Privy Council at the first outbreak of the disease, although it had not been successful. This matter was beyond the range of politics, and affected the consumer as much as the producer, the Rinderpest having been the chief cause of the high price of meat in recent years. The Americans had now settled the problem

of feeding the people by the extension of the dead meat trade, but he would be prepared to exclude even dead meat, if it were likely to bring with it Cattle Disease. The internal regulations which they had to submit to were harassing and not always effective, besides being often evaded. Quarantine places he regarded as impracticable, because in the case of three or four cargoes of animals arriving within a short time, the healthy animals must of necessity walk over the same ground as the diseased cargoes. Therefore he would draw the line of prohibition a little further off than it is at present, and insist upon animals being slaughtered on the other side of the water. He had been told that no Government could possibly pass such an order; but if not, then he hoped some independent member would rise in the House of Commons, and move a resolution to the same effect as his amendment. But to-day he asked the Council for an unfettered expression of their opinion upon it. He, therefore, moved as an amendment, in place of the first and second resolution, and the preamble of Mr. Jones's motion, the following :— "That seeing the precautions hitherto adopted for the prevention of outbreaks of Rinderpest and other contagious diseases of animals in Great Britain have not been successful, it is the opinion of this Council nothing short of the total prohibition of the importation of live stock from European ports will meet the exigencies of the case."

In reply to Mr. WELLS as to the statement in Tuesday night's *Gazette*,

Professor BROWN stated that the outbreak of Cattle Plague at Hull was one of four which had occurred in the infected district, and the disease had not extended beyond that area. The last case in Hull had occurred on Feb. 27th. In the metropolitan area a case had occurred at Hackney on the 3rd of March, and in Essex another case on the 4th of March. Up to the present time 138 animals, healthy and diseased, had been slaughtered from either being affected with Cattle Plague or having been in contact with diseased animals ; but generally only one or two animals in a dairy had been attacked, and the rest were immediately slaughtered. The disease had not spread to any important extent beyond the area of the first outbreak in each case. The Hull outbreak had nothing to do with that in the Metropolis. On the 12th and 14th of January, two cargoes of animals were landed at Hull from the same sheds in Hamburg which had housed the infected animals that had been sent to Deptford, and one cargo left Hamburg on the same day and within a few hours of the *Castor*, and would have arrived in Hull simultaneously with the *Castor's* arrival at Deptford, but that the *Castor* laid off Gravesend all Sunday night. The officials at Hamburg declared the existence of Cattle Plague on the day after the infected cattle left that port, and they not only killed all the animals, but burnt down some of the buildings in which the animals had been kept, as the best means of disinfecting them. It now appeared that soon after the arrival of one of the cargoes at Hull, one animal presented peculiar symptoms, from the description of which, and from the *post-mortem* examination by the inspector, taken in connection with the other evidence, Professor Brown had no hesitation in pronouncing the disease to be Cattle Plague. The disease had reached the dairies in Hull, as it reached the farms in the East Riding of Yorkshire in 1872, from Russian animals which had never been landed. In each case persons employed about the animals must have carried the infection. The disease had lingered in the original centres of infection, but the area had not at present been materially extended. All the authorities are now quite alive to the danger, and many of them have imposed restrictions on the cattle traffic. If absolute powers were possessed by the English Government, such as exist in Germany, a cordon might have been drawn round the centre of infection, and the animals slaughtered immediately or kept within very limited bounds. Under such a system Hamburg, Berlin, and Breslau have been already

declared free of Cattle Plague ; but it still lingers in Saxony ; and Professor Müller, the State Veterinary Surgeon in Berlin, had come to the conclusion that the lesson to be derived from this recent outbreak was—that all cattle markets in large towns in Germany ought to be closed as soon as a declaration of Cattle Plague was made at any place on the frontier.

Colonel KINGSCOTE seconded Mr. Wilson's amendment. Professor Brown had shown conclusively how difficult it was to eradicate the disease when once it appeared, and it occurred to him that if the *Castor* had pursued her course, instead of laying off Gravesend all night, the disease might have got much farther into the country before it was discovered, than it had done under the actual circumstances. He regarded Mr. Bowen Jones's resolution as not going far enough, and, in his opinion, all animals ought to be slaughtered at the port of embarkation, or at least the import of all live animals should be prohibited.

Mr. BOWLEY never felt so much the responsibility of his position as a member of the Council. The whole of the agricultural interest throughout the country were now looking to this Council to take action in reference to this outbreak of Cattle Plague ; and, fortunately, the recent importation of American meat had shown that the prohibition of the importation of live stock would not be so great a hardship, either to Continental people or to consumers, as we had previously believed. He should, therefore, support Mr. Wilson's amendment.

Earl CATHCART expressed his obligations to Professor Brown for the lucid statement which he had made to the Council. His lordship did not intend to say anything upon the general question, but he would remark on the proposal to import nothing but dead meat, which, as Professor Brown had said, may also bring disease with it. He had studied the dead meat market practically. The practical difficulty which he saw was, that the poor were largely dependent upon the supply of offal for their animal food. This offal was perishable, and probably not worth carrying long distances. The Council should, therefore, look at all the circumstances surrounding the question, and the Government would certainly have to consider the circumstances before coming to any decision on such a resolution as that before the Council.

The PRESIDENT remarked that the proposal to prohibit the importation of live stock would affect a very large interest known as the fellmongers' trade, which was dependent upon the importation of hides, horns, and hoofs, and it would be a serious thing to destroy such an enormous industry.

Mr. CHARLES HOWARD cordially supported the amendment. There was a very strong feeling in the midland counties, as well as in the north, that pressure ought to put upon the Government in reference to the importation of foreign cattle. He trusted that the Council would pass a very firm resolution, as, in his opinion, the breeders and feeders of cattle in England ought to be considered more than the consumers of foreign offal. The English farmers within the last few years had lost more money from foreign diseases than the worth of all the foreign cattle which had been imported in the same time ; and the farmers were not now in a position to bear the burden of another outbreak of Cattle Plague.

Professor BROWN spoke a few words on the general question. It had been suggested that the importation of foreign cattle should not be permitted—as a temporary measure at least ; the object being, presumably, either to limit the extent of the present outbreak, or to prevent the introduction of fresh centres of infection. The action already taken by the Privy Council had practically met these objects, as the importation of all animals from countries from which Cattle Plague could come had been totally prohibited, while animals from some other countries must be slaughtered at the port of landing. The countries from which animals could still be imported and pass into

the interior of the country, had protected themselves from Cattle Plague for at least a hundred years: in them, indeed, so far as was known, the Cattle Plague of our time had never appeared. It had been apprehended that possibly Cattle Plague might be imported into this country by sheep, but, as a matter of fact, this had never occurred, and it therefore would seem superfluous to provide for a contingency which had never yet arisen. Mr. Bowen Jones's resolution, if put in force, would necessitate the remodelling of the arrangements at all the landing-places in Great Britain, with, perhaps, the exception of Deptford, and would therefore have to be discussed and passed in the House of Commons before it could be adopted. If the English Government were to pass an order such as had been suggested, it might fairly be alleged that England had broken faith with the Governments of those foreign countries which had agreed to all our proposals, and had made successful efforts to keep disease out of their territories.

In reply to Earl FEVERSHAM,

Professor BROWN stated that under the present regulations cattle could not be moved from the borough of Hull into the East Riding of Yorkshire, but the authorities of the Riding couid not prevent cattle from Hull from passing through their district.

Mr. MARTIN had a vivid recollection of the appalling scenes which he had witnessed during the last great outbreaks of Cattle Plague, and many of the smaller farmers had never recovered from the loss which they then sustained. The only safety lay in slaughter. Nothing would satisfy agriculturists except the prohibition of the importation of live stock from foreign countries, and he wished the Government could be persuaded to adopt preventive means before Cattle Plague appeared, instead of afterwards. With regard to the argument that fellmongers' and other trades might suffer, he stated that many trades had already been sacrificed for the good of the country, and especially instanced mail coaches at the time of the introduction of railways.

Mr. AVELING referred to the horrible sufferings of animals which came across from the Continent in steamboats, and expressed the opinion that the flesh of such animals was not so wholesome as that of animals killed on the other side of the water.

Mr. STRATTON hoped that no temporary measure would be recommended, as the Privy Council had already made excellent regulations of that nature. He did not complain that they had heard too much about Foot-and-mouth Disease and Pleuro-pneumonia, and he thought the Council had a right to ask the Government for protection for the farmers from these diseases.

Mr. BOOTH recalled the statement, made a month ago, as to the limits of the outbreak of Cattle Plague. He reminded the Council that these limits had since been exceeded, and the ultimate development of the outbreak could not be stated. During the last twelve years they had had three different outbreaks, and another might occur in three months' time. He thought, therefore, the Council ought to urge the Government to take the means proposed by the amendment, to avoid such a contingency. Only 5 per cent. of our consumption of meat was imported from abroad as live stock, and 27 per cent. of these animals were slaughtered in consequence of forming part of diseased cargoes. Although we continued to admit stock from foreign countries, all foreign countries declined to take stock from us, as also did our colonies. Therefore we should look to means for our own protection.

Mr. RIDLEY, M.P., in supporting the amendment, stated that he had come to his present opinion with considerable hesitation, as he was aware of the practical difficulties which surrounded the question. The Council of the Society were not legislators, and they must leave the Government to deal with the difficulties of the question. He hoped that the Council would be

practically unanimous in the expression of their opinion to-day, and that they would state their belief that prohibition of importation of live stock was the only means of preventing the importation of diseases of cattle.

Mr. BOWEN JONES said that all members of the Council had obviously the same object in view, and the only question was, the best means for its attainment. Their ultimate object, no doubt, was the establishment of a dead meat trade, and he was willing to withdraw his first two resolutions in favour of the amendment.

After a few words from Mr. WELLS, expressing his reluctance to prohibit the importation of store stock,

Mr. Wilson's resolution was put to the vote and carried unanimously.

The third resolution of Mr. Bowen Jones was also carried unanimously—viz., "That uniform and compulsory measures be enforced throughout the kingdom for the suppression of contagious diseases of cattle."

It was then moved by Colonel KINGSCOTE, seconded by Mr. JACOB WILSON, and also carried unanimously, "That the foregoing resolutions be conveyed to the Lord President of the Privy Council."

Parliamentary Intelligence.

HOUSE OF LORDS.

CATTLE PLAGUE.

Feb. 22nd.

EARL FORTESCUE rose for the purpose of calling attention to the outbreak of Cattle Plague in Essex and Yorkshire, and of asking the Government what steps had been taken to prevent the spread of the disease. The importation of live cattle was a trade which had sprung up in our own time. It was one of the results of Sir Robert Peel's free-trade measures. He was convinced that without the slaughter on the other side of the Channel, instead of this side, of all animals which were intended to be used as food in England, our valuable flocks and herds would be very inadequately protected from disease. In connection with this matter there was another point which their lordships should consider, and that was the cruelty which was inflicted upon animals under the present system. If any of their lordships had had the misfortune, as he had had, to witness the disembarkation of stock, and especially of fat stock, they could not but have been satisfied that the interests of humanity would be immensely promoted by the abolition of a process which inevitably entailed a terrible amount of suffering. As many of their lordships must be aware, when there was stormy weather at sea the hatches of the ships in which stock was being conveyed here had to be closed; and at the end of the voyage a number of animals were frequently found to have been suffocated. Where suffocation had not taken place, the animals were found to have suffered severely, and he could not believe that in the state in which they must necessarily be after a stormy passage they could be very desirable food for consumption in England. Dead meat had been successfully imported from across the Atlantic, and there should be no difficulty in also bringing such meat to our shores from Hamburg, Rotterdam, and the French coast. He had been told that in one English county alone the loss of property, in the shape of cattle, which had taken place in consequence of cattle disease, had amounted to at least two millions sterling; and, if that

were the case, it would surely be sound political economy, as a simple matter of insurance, to take the precautions which he had indicated. The noble earl proceeded to refer to the views which had been expressed by the Central Chamber of Agriculture and Farmers' Club on this subject, and concluded by putting the question of which he had given notice.

The Duke of RICHMOND.—"I am not at all surprised at the anxiety manifested by the noble earl to obtain information upon the matter which he has made the subject of the question addressed to me. The matter is one of such immense importance, and the consequences which would follow the spread of the dreadful disease known as the Cattle Plague would be so disastrous, that it is only natural the subject should be of interest and concern to your lordships, and that you should desire to hear some statement from me in reference to it. But while that is the case, I have no doubt, with all your lordships, I think that the introduction of the subject at the present time has very appropriately fallen to the noble earl who has just spoken (Lord Fortescue), holding, as he does, the very honourable position for the year of President of the Central Chamber of Agriculture, an association which includes amongst its members some of the most eminent agriculturists in England. When I read the question which the noble earl placed upon the table I was not prepared, however, for the arguments and the speech which he has given us on this occasion in regard to Cattle Plague and the best way of preventing its introduction into this country. I think he was not quite correct in the statement which he made in the course of his observations, that it was only since the year 1846 that animals were allowed to be imported free into this country. The fact is that up to the year 1833 there was perfect freedom in regard to importation of stock into this country. From 1833 to 1842 there was a prohibition; from 1842 to 1846 they were admitted on payment of duty; and from 1846 up to the present time they have been admitted free, as every one knows, under certain regulations. I hope the noble earl will also pardon me if I venture to differ from his statement that it is only since 1844 that the disease known as the Rinderpest first appeared in this country. I believe it will be found that years before that there were complaints of a disease which, if not absolutely the same as the Rinderpest, was very like it. The noble earl went on to refer to an important document which I had the honour to receive from the Central Chamber of Agriculture; and one of the suggestions made in that document was that the animals should be slaughtered at the port of debarkation; but the noble earl proceeded to indicate that he considered that would not be sufficient. In fact, he would practically prevent the importation of all stock into this country."

Earl FORTESCUE.—"Not all."

The Duke of RICHMOND.—"So far as I have been able to ascertain up to the present time, the great difficulty in this matter has been to distinguish between fat stock and store stock; and to say that we should prevent the introduction of fat stock—that we should only allow animals to come in as store stock—is to declare that a thing should be done which it would be almost impossible, if not quite impossible, to do. The noble earl is a free-trader; but if such a proposal as that were carried out, it would really be going back to the days of protection—days, however, which I am not here at the present moment to discuss. The noble earl also said that the experience which we have had of the importation of American meat should have satisfied us that the plan followed in regard to that meat had solved the difficulty, and that we ought to take measures to insure that all meat, of whatever character, intended for food in England, should be brought into this country in a like manner. But I scarcely think we have had sufficient experience yet of that trade to justify us in saying that it has been completely successful.

The noble earl also alluded to France in the course of his remarks ; and certainly with a sea passage of only some two hours there is nothing, I apprehend, to prevent that country from following in the footsteps of America. The noble earl likewise stated that if all animals were prevented from being brought into this country alive we should ensure that the Cattle Plague would not exist in England ; but I would remind the House that a remarkable instance, contradictory of that view, was afforded on the occasion of the last visitation of the disease to Ireland. With reference to the immediate question of the noble earl, perhaps your lordships will permit me to state a few facts. On the 15th January a paragraph appeared in the newspapers stating that the Cattle Plague had broken out in Germany. Without waiting for official confirmation of that report, I telegraphed to the inspectors at the various ports of this country, and requested them to be specially careful in regard to the stock which came under their observation from abroad. The same evening a cargo arrived by the ship *Castor* at Deptford, from Hamburg, and unfortunately the Plague was discovered amongst that cargo. One animal had died on the voyage, and when the ship was inspected other animals were found to be affected by the disease. On the 16th January the animals were slaughtered, and their carcases and skins were all destroyed. Then, my lords, on the same day an Order in Council was passed requiring that all sheep and goats from Germany should be slaughtered at the port of debarkation, and a circular was issued to all the local authorities informing them that the Cattle Plague had broken out at Hamburg, that an infected cargo had been landed at the port of London, that strict inquiry should be made, and that all doubtful cases should be dealt with without delay. I caused the animals on board the ship *Castor* to be slaughtered, and, somewhat exceeding the powers I possessed, I requested the inspectors to detain vessels till they had been disinfected to their satisfaction. I also induced the shipowners to agree that for the space of one month they would not carry any animals on board their ships. Private information next reached me that sheep and goats might possibly come through Belgium and France from Germany, and I therefore considered it necessary to issue an Order in Council scheduling those countries. Then further information reached the department that the disease had spread considerably in Germany, and an Order in Council, dated January 27th, was issued prohibiting the importation of cattle altogether from Germany and Belgium, and that sheep and goats should on their arrival be slaughtered. These precautions were taken on account of the prevalence of the Cattle Plague in foreign countries, and up to that time we had no information of any Cattle Plague at home ; but on the 31st January a suspicious case occurred at Limehouse, and I requested that all the animals in the same shed should be slaughtered and their carcases destroyed. We received every assistance from the Metropolitan Board of Works, and on the 31st January a *cordon* was placed around London, and no animal was allowed to go outside the metropolitan districts. On the 1st February I communicated with the commissioner of police and the railway authorities in order that they might take the necessary precautions, and on the 2nd an Order in Council was passed prohibiting the holding of fairs and markets within the Metropolis except by license. On the 3rd there was a fresh outbreak at Poplar, and another at Bow, and I then sent an inspector to visit all the dairies. There were further outbreaks in Poplar and Millwall, Hackney and Hackney Wick; and on the 8th February we heard of the appearance of the disease at a place on the frontiers of the Netherlands, and though not actually in that country, I thought it necessary to schedule the Netherlands. Just then, for the first time, the disease appeared outside the Metropolis, although only so far off as Stratford ; and upon that an Order in Council was issued, giving local authorities power to

prohibit markets and fairs and removals of cattle without license. I thought it better that they should have this power to do it themselves, because they would best know the requirements of their own localities, and it would enable them to act with promptitude on the spot and at the time, instead of having to delay while communication could be made to the Privy Council Office. When the Plague spread into Essex the local authorities availed themselves of the power so conferred, and in four petty sessional divisions prohibited the removal, except by special license. The result was that on the 31st January there were but nine cases in Limehouse, Millwall, Blackwall, etc., and the Orders in Council I have mentioned appeared to me sufficient to meet all the emergencies that would arise, and I hoped sufficient to stamp out the disease altogether. A case occurred at Hull on the 20th February, and on the 21st it was reported to us. I took it upon myself to advise that an Order in Council should be passed at once to stop all fairs and markets, except by license, within the East Riding of Yorkshire. I took on myself the responsibility, not because I had any distrust of the local authorities, but as there was a large fair to be held the next day in York, it could not have been stopped if there had been any delay. This, my lord, is what has taken place with regard to the Cattle Plague; and I believe every precaution has been taken that was possible. I have had the advantage of the services of one of the most eminent veterinary surgeons in England, Professor Brown, and the able assistance of Messrs. Cole, Tennant, and Griffiths. I ought, in summing up what is the state of matters at the present moment, to point out to your lordships that from Belgium, Germany, and Russia the importation of live cattle and meat is prohibited, and that sheep and goats from thence are slaughtered at the port of debarkation. The only countries, therefore, from the extreme north to the extreme south of Europe, from which cattle can be admitted at this moment (and then they are detained twelve hours before they are allowed to go) are Norway, Sweden, Denmark, Spain, and Portugal. It is a remarkable fact, and one of which I have only lately been aware, that in those countries no Cattle Plague is or has ever been known to exist; so that no cattle can come into this country from any country in which the Cattle Plague is known to exist.* I hope your lordships think that every possible precaution has been taken, and promptly taken, in dealing with this most disastrous Plague, and that the department over which I have the honour to preside does not go to sleep, but is always ready to take the most prompt and the most effective measures in these emergencies."

The Earl of KIMBERLEY said that when he was Lord Lieutenant of Ireland it was a well-ascertained fact that the Cattle Plague was not introduced into that country by cattle. The supposition was that the drovers who crossed with cattle to England brought back the infection in their clothes.

In the House of Commons on the same occasion Lord SANDON, replying to Sir W. BARTTELOT, said that since the discovery of Cattle Plague in Limehouse in January the disease had been detected in Poplar, Blackwall, Millwall, Stepney, Bow, and Hackney. Beyond the limits of the Metropolis it had been discovered in two sheds at Stratford and Canning Town, in the county of Essex. In each case the diseased animals had been slaughtered, and the premises disinfected. On the 17th inst. information had been received that the Plague had broken out in a dairy at Hull, and on the following day an inspector was sent down from the Veterinary Department of the Privy Council to Hull, to advise the local authorities not to allow any of the cattle exposed for sale in the market to be sent into the country. The

* See note on opposite page.

inspector was also told to see that further examination should be made of all cows in the town. These precautions were at once adopted, and all the cattle in the dairy in question were slaughtered and buried. On two subsequent days the disease was detected in two other parts of the town. With regard to the Metropolis, a *cordon* had been established, and no animals were allowed to leave it alive, and fairs and markets were prohibited except by license. The same measures had been taken with respect to the southern parts of Essex, the East Riding, and also the City of York. Again, the importation of all cattle had been prohibited from Germany and Belgium, and it had been forbidden for some time past from Russia. All cattle coming from the Netherlands and France must be slaughtered at the port of debarkation. Healthy cattle might come into the Metropolis, after examination and detention, from Spain, Portugal, and Denmark, as these countries had never been known to have any Cattle Plague.* The Lord President of

* These extraordinary statements by the Duke of Richmond and Lord Sandon—showing, as they do, a remarkable ignorance of the history of Cattle Plague, for which, of course, neither can be blamed, were commented upon in the following letter, which appeared in *The Times* immediately after the allusions in the Houses of Parliament :—

"In all our dealings with the terrible exotic bovine malady known as 'Rinderpest' and 'Cattle Plague,' we must be largely guided by the teachings of history, as on them our safety from its destructive invasions will to a great extent depend. And we are particularly fortunate in this respect; for of all the serious contagious disorders to which animals are liable, there is not one the history of which is so clear and complete as the Cattle Plague. The present invasion of the scourge in this country may prove a very serious one, or it may not; much will depend on chance, as we have no sanitary organization capable of contending with the disease, or with other disorders of this class, which have harassed the country for the last forty years; and though we know perfectly well on what conditions their introduction, maintenance, and diffusion depend, yet we are still at their mercy. Simply because we have nothing by which to combat them.

"Acknowledging the great value of historical teaching, it is with astonishment that I read the report of the proceedings in the House of Lords last night. In reply to Earl Fortescue's well-timed and pertinent questions relative to this disease, the Duke of Richmond stated :—

"'The only countries from the extreme north to the extreme south of Europe from which cattle are admitted alive at this moment are Norway, Sweden, Denmark, Spain, and Portugal. . . . . It is a remarkable fact, and one of which I have only lately been aware, that in those countries no Cattle Plague is or has ever been known to exist; and therefore at the present moment no animals are allowed to be imported alive from any country where Cattle Plague has ever existed.'

"And Lord Sandon, replying in the House of Commons to Sir W. Barttelot, observed that—

"'Healthy cattle might come into the Metropolis, after examination and detention, from Spain, Portugal, and Denmark, as these countries had never been known to have any Cattle Plague.'

"It is strange at this time of day to have to point out that both of these statements are inaccurate; though for their inaccuracy neither of the speakers was to blame, as they doubtless obtained their information from a source supposed to be trustworthy, and they cannot be expected to have the history of the disease at their fingers' ends. The fact is that all the countries named, with the exception perhaps of Portugal, have been visited by Cattle Plague, and two of them, Denmark and Sweden—particularly the former—most severely. In proof of this let me refer to the *Scot's Magazine*, vol. xvii., p. 605, where occurs the following notice :—

"'The 14th of January, 1746, was appointed a day of public fasting and prayer to be observed all over Denmark, on account of the mortality among the cattle throughout that kingdom. It is reckoned to have carried off no less than 60,000 before the middle of

the Council was most anxious to do all he could to abate the Plague, in behalf of the interests alike of producers and consumers. At the same time it was essential that no interference other than was absolutely necessary should take place.

Mr. FORSTER.—"I should like to know whether, in the case of Hull, the cattle were imported direct from Germany or London, and by what ship."

Lord SANDON.—"I cannot give the right hon. gentleman any precise information on that point, but I believe the disease came direct from Germany."

February 24th.

Sir W. BARTTELOT asked the Vice-President of the Council whether inquiries had been instituted with reference to the origin of the outbreak of Cattle Plague at Hull; and, if so, with what result. He wished also to know whether there had been any fresh outbreak of Plague since the noble lord had last addressed the House on the subject.

Mr. NORWOOD asked whether the noble lord was now able to state the

December. It advanced likewise in Jutland, and the apprehensions of it engaged most people to kill their cattle.'

"From 1745 to 1749 it is estimated that it killed 280,000 animals in Denmark. The scourge at the same period entered Sweden, and, according to Linnæus (*Schonensche Reise*), in Schonen alone 32,584 oxen and cows died, leaving alive only 2 per cent. of the entire horned stock of the Province. In the little Island of Oesel, in 1750-51, no fewer than 20,000 cattle succumbed. So calamitous was the pestilence in Denmark, that it engaged the attention of the most learned physicians, and in the Memoirs of the Royal Scientific Society of Copenhagen for 1746 ('Acta Havniensia,' vol. ii.), will be found some curious yet most interesting details concerning it. Not only were the cattle in Denmark and Sweden decimated by the malady, but those of Norway were also swept off by it, while the reindeer in Lapland suffered severely, the infection having been conveyed from Norway to Jutland.

"According to Gissler ('Abhandl. der Schwed. Akada,' vol. xxi., p. 286), it spread among the herds of the Lapps over the whole south-western portion of the country, and caused such havoc that many of the people who previously were very wealthy in possessing immense numbers of reindeer were reduced to extreme poverty.

"So much for the north of Europe. Now for Spain. In 1774 the infection of Cattle Plague was carried by raw hides to Bayonne, where an outbreak occurred, and by some means or other it was conveyed across the Spanish frontier to St. Sebastian, thence spreading rapidly over a wide surface, and causing sad losses: in many towns and villages there perished every head of cattle—as at Andoin, in the province of Alva. The scourge ravaged Navarre, Guipuzcoa, Arragon, the mountains of Santander and those of Pas; and so great was the mortality in the kingdom of Granada that but few cattle remained. The history of this outbreak will be found in Villalba's 'Epidem. Española' (vol. ii., p. 229).

"So much for the accuracy of the statements made in both Houses of Parliament, and which appear to have been applauded. It may be urged in explanation of the inaccuracies, that the authorities which allude to these outbreaks are not very accessible, and that they may well have been overlooked. Such a plea, however, cannot be entertained, as the information was at the hand of the Veterinary Department of the Privy Council; for, in 1871, I published a chronological work on 'Animal Plagues,' from B.C. 1490 to A.D. 1800, in which the history of this and other spreading diseases of animals was traced during that very extensive period, and in which the details of the above outbreaks are given. It is very discouraging to find that eleven years of close and very expensive research, undertaken and carried out solely with the view of benefiting the country, should have been entirely thrown away—that is, if the evidence of last evening be accepted as proof.

"I have mentioned that the history of Cattle Plague is nothing more or less than a series of warnings. One of these warnings is especially urgent at the present moment, and should be impressed upon the memory of those who are so energetically agitating for an Eastern war.

"detailed" information to which he referred when he expressed on Thursday last his belief that the outbreak of Rinderpest at Hull was caused by infection which came direct from Germany.

Lord SANDON.—"I fear I cannot give any positive information as to the origin of the outbreak of Cattle Plague at Hull; but the inquiry which has been made confirms, I think, though indirectly, the statement I made last week, that we had reason to believe that it was imported from Germany. But we have only presumptive evidence on the subject. On January 14th, a cargo of twenty-five cattle was landed at Hull from Hamburg within a part of the port defined for slaughter; and on the following day, the 15th, the cargo of animals largely affected by the Cattle Plague, the arrival of which in London created so much alarm, reached Deptford also from Hamburg. Shortly after the landing of the animals at Hull, the inspector ascertained that several of them were affected with Foot-and-mouth Disease; and the following day one of them was found to be very ill, and was immediately slaughtered. From the account which the inspector has given of the symptoms and of the *post-mortem* appearance, there is no doubt that this animal was the subject of

"When Russia, in 1827, declared war against Turkey, Cattle Plague became rapidly diffused through Bessarabia, and extended thence with the greatest virulence and mortality into Wallachia and Moldavia, and soon entered Podolia and Volhynia. From these countries, Poland, Hungary, Prussia, Saxony, and, finally, the Austrian States were infected, and notwithstanding the most energetic measures the losses were immense. Even in 1830 the malady was not suppressed, but smouldered along the banks of the Danube as far as Illyria. For the havoc it wrought during the operations of the Russo-Turkish war, the works of Von Moltke and Chesney afford evidence; and it is shown that, among other things, the rotting carcases of the cattle which perished from the disease and were left unburied, gave rise to human Typhus in its most malignant form.

"I think there can scarcely be a doubt that Germany and England owe the present outbreak to the Russian mobilization at Kischeneff, and if in 1828-30 the danger and destruction were so formidable in Western Europe, assuredly the risk and the prospect of havoc are immensely increased now, when the facilities for the conveyance of the infecting element are so wonderfully multiplied that almost simultaneously we have outbreaks occurring on the Polish frontier towards Bessarabia, at Hamburg, Altona, Berlin, and in England—at London and Hull. Russian aggression, therefore, threatens more than the destruction of mankind at the immediate seat of war; it imperils the animal wealth of nations which may not enter into the conflict. This should be duly considered by those who are stimulating the war fever.

"One word more as to the danger we always incur with regard to this pestilence. Years ago we were solemnly assured that the risk of its transmission from Germany was *nil*, because of the strict, even severe, sanitary laws always in force in that country. This assurance has now been proved to be fallacious, and every one who knows anything of the subject will be ready to confess that port inspection, however carefully it may be conducted, is not a safeguard against the introduction of Cattle Plague or any other animal plague. The inspector is not born who can detect this malady in its latent stage; and there is no reason whatever why an ox infected at Berlin may not be carried to Aberdeen before the symptoms of Cattle Plague are sufficiently developed to attract the attention of the most astute and experienced inspector. The present outbreak goes far to prove this.

"The lessons afforded by history and the teachings of Veterinary Science are obvious enough. If we remain in ignorance of them or ignore them, only one result can follow. This unhappy result can be nearly if not altogether obviated by the adoption of the precautions suggested by Earl Fortescue, who deserves the warmest thanks of the country at large, but particularly of agriculturists, for bringing the question forward at this crisis

"I have the honour to be, etc.,

"GEORGE FLEMING,

"Chatham, *Feb.* 24. "Veterinary Surgeon, Royal Engineers."

Cattle Plague. All these animals were slaughtered in the defined part of the port. It was not till the 17th of February that any case of Cattle Plague was detected in a living animal in the dairies of Hull; but it has been ascertained that one dairyman had got rid of all his stock previously to that period, and he asserts that he sent them to the butcher. The other cases which I mentioned as having occurred in Hull were detected after this on an inspection of all the dairies. No fresh cases have been reported since the last information which I gave to the House,—that is to say, since the 20th of February."

Deaths from Hydrophobia.

February 26th.

Mr. Whitwell moved for an address for returns of the number of dogs assessed to the dog-tax in the year 1867, and the number of licenses taken out for dogs in each year since, in each county in England and Wales and in Scotland; and of the number of deaths from Hydrophobia in each county in England and Wales and in Scotland for each of the years from 1867 to 1875 inclusive, and the number of deaths from Hydrophobia in each county in Scotland for each year from 1867 to 1874 inclusive, and in the principal towns in Scotland during the year 1875.

Agreed to.

March 5th.

Mr. Wm. Lowther asked the Vice-President of the Council whether, as the Cattle Disease was known to exist at Hull, measures could not be taken by the Privy Council to induce the local authorities of the West Riding of Yorkshire to suspend in the county all fairs and markets, as had been already done in the East and North Riding.

Viscount Sandon pointed out that, as Hull was the only place hitherto affected by the Cattle Plague, the Privy Council had not thought it desirable to interfere with the discretion of the West Riding in the matter. He might mention, for the information of the House, that no fresh instance of Cattle Plague had occurred since the 27th February.

HOUSE OF LORDS.

The Cattle Plague.

March 8th.

Earl Fortescue called the attention of the President of the Council to the fact that farmers and others had a difficulty in obtaining copies of the Orders in Council issued in regard to the Cattle Plague. This was to be regretted, especially as the farmers were liable to be fined for not complying with the order.

The Duke of Richmond and Gordon quite agreed that, as penalties were attached to the failure to carry out the orders, it was desirable that they should receive as much publicity as possible. Copies of them were sent to all local authorities, inspectors, railway companies, shipowners, and others whom they particularly concerned; and, besides this, copies were kept at the Veterinary Department of the Privy Council, so that any one who applied might receive one. They were given to all applicants free of charge.

Earl Fortescue, having remarked that it was well this should be known to farmers, asked whether the noble Duke had any later information than that supplied by the Vice-President as to the spread or suppression of the disease. He apologised for not having given notice of his question.

The Duke of Richmond and Gordon said he was not aware what answer

had been given in another place by the Vice-President. He had no particular information to give, except that one other case had occurred at Hull within the last forty-eight hours, and that steps were being taken to prevent the disease from spreading.

HOUSE OF COMMONS.

The Cattle Plague.

March 12th.

Col. KINGSCOTE asked the Vice-President of the Council whether it was true that a fresh outbreak of Rinderpest had occurred in the neighbourhood of Hull.

Lord SANDON regretted to state that such was the fact. In the afternoon of Friday, the 9th instant, a report was received at the Privy Council Office from a local inspector stating that a case of Cattle Plague had been discovered in Lincolnshire, about nine miles from Great Grimsby. The Chief Inspector of the Privy Council was sent down on Saturday, and his report left no doubt whatever of the disease being Cattle Plague. There were twenty-four animals on the farm, several of which had been affected. They had all been slaughtered, and the Inspector remained on the spot to investigate the origin of the outbreak.

March 13th.

Col. KINGSCOTE asked if the Vice-President of the Council had any further information as to the outbreak of Rinderpest in Great Grimsby, or in any other locality.

Lord SANDON.—"I am very sorry to say that I have not been able yet to ascertain the origin of the outbreak near Grimsby. We hope at any moment to have an account from the inspectors. I am still more sorry to be able to say that last night, after I answered the question of my hon. and gallant friend, Mr. Alexander, of Stepney, reported that the Cattle Plague had broken out in his dairy, consisting of 140 cows. An inspector was sent down, who reported that he found five animals that were undoubtedly affected with Cattle Plague. They were at once destroyed, and the remaining 135 are being slaughtered. This is the more deplorable because Mr. Alexander took every possible precaution, kept his premises locked up, and made his men use disinfectants in their contact with the animals."

Mr. W. E. FORSTER.—Is Stepney within the district round which a cordon has been drawn?"

Lord SANDON.—"It is."

Army Veterinary Department.

Veterinary-Surg. J. K. Grainger (doing duty with the Royal Artillery in India) has been granted leave to England to appear before a medical board.

Inspecting Veterinary-Surg. R. H. U. Holloway has been granted leave for sixty-six days; during which period his duties will be performed by Veterinary-Surg. F. G. Shaw.

It gives us much pleasure to be able to announce that Mr. F. F. Collins has been confirmed in the appointment of Principal Veterinary Surgeon in

India. Mr. Collins had been Acting Principal for some time, and his confirmation in this high and important office will, we are confident, be greatly to the benefit of the Department in our Indian Empire, and, consequently, to the Indian Army.

Many changes and improvements are anticipated in that Department. There is every prospect of the Bombay and Madras inspectorships being filled by two veterinary surgeons from England on the Imperial list, and at an early date. The inspectorship in Bombay is now vacant, and that in Madras is expected to be so before long. We have reason to believe that the relationship between the head of the Veterinary Department in England and the members of the Department in India, has at last been arranged on a satisfactory basis; the Government of India having decided that it is to be similar to that existing in the Medical Department—viz., that direct communication shall be made on professional and departmental matters. It is also not unlikely that a rule will be established by which no veterinary surgeon will be promoted to Staff rank, unless he has completed a tour of foreign service; and there is a prospect of a strict roster being kept for India. This appears to be only fair; for as half the number of army veterinary surgeons are retained and paid by India, that country has a right to a just proportion of experienced men. Of the forty-two First Class Veterinary Surgeons on the list, only ten are in that country. So strictly will the rule be maintained, that should a veterinary surgeon decline to leave his regiment and proceed to India, he will forfeit all claim to promotion to Staff. To counterbalance what will be considered by some as a severe regulation, an effort is likely to be made to limit a tour of India service to five years.

With these increasing exactions on army veterinary surgeons, the question naturally arises as to what compensation in the way of pay and promotion is to be offered. On this all-important point we cannot as yet make any explicit statement. A new and improved scheme has been for some time before the authorities, and it is surmised that the actuaries will have submitted their report upon it in a few days, if they have not already done so. A marked feature in any new scheme is likely to be an examination of the army veterinary surgeon at ten years' service, and if he fails to pass it satisfactorily he will be retired with a bonus.

Whatever is mooted or carried out we may rest assured will be in the direction of efficiency and improvement, if the recommendations of the Principal Veterinary Surgeon are listened to. No one knows better what is necessary, and no one can have the interest of the Department and the service more at heart.

Obituary.

We are extremely sorry to learn that death has removed from our ranks one of our most esteemed and ablest members, in the person of Mr. James Macgillivray, M.R.C.V.S., late of Inch and Huntly, Aberdeenshire, and who died at Glasgow on February 17th, aged seventy-seven years. Mr. Macgillivray studied in Edinburgh at the Clyde Street School, under the late Professor Dick, and graduating in 1845, he soon began to manifest that enthusiasm for his profession, and that ability in its practice, which have on so many occasions distinguished the *alumni* of the "Dick" school. Perhaps no name was better known in Scotland—and particularly the north—than that of our deceased friend; and we need scarcely wonder at this, when we find that he was a most popular public lecturer, and during his career had delivered

nearly five hundred lectures on all kinds of subjects of current interest. He was also the author of six prize essays on professional topics, and in 1857 published a most excellent "Veterinary Manual," which passed through more than one edition, and to which we have had frequent occasion to refer. Though full of years and honours, the death of such a good and devoted member of our profession nevertheless causes deep regret at the loss we sustain. Mr. Macgillivray's name and ability are not, however, lost to the profession for ever, but are transmitted to his son, whose worthiness to sustain both are evidenced by his valuable and frequent contributions to our pages.

In our last issue we announced the demise of William Fordie, Professor of Anatomy in the Glasgow Veterinary College. To a valued correspondent we owe the following notice of this excellent member of the profession :—

"On Friday se'nnight, the Professor was engaged lecturing to his class, when he was seized with illness, which developed into Typhoid Fever, of so virulent a type that his medical attendant considered it advisable that he should be sent to the Belvedere Hospital. After his removal there he gradually sank, and died on Saturday. The deceased was a native of Edinburgh, and in early life he lectured with marked success in the New Veterinary College of the metropolis, at that time presided over by Professor Gamgee. The duties of lecturer on anatomy in the Glasgow College were discharged for a short time by Professor M'Call, but immediately on the establishment of the anatomical chair, some ten or eleven years ago, it was offered to and accepted by Mr Fordie. The disposition of the Professor did not lead him to take any part in the veterinary practice of the College, his sphere of action being more particularly the class room and the dissecting room. As a lecturer, he was specially fluent in speech ; and, endowed with a most retentive memory, he had all the details of the science at his fingers' ends, so that he was able, unaided by manuscript, to communicate the results of his study and researches to his students. That his manner of teaching was appreciated by his pupils is apparent from the fact that, beginning with a mere handful of students, he had at the time of his death gathered round him an attentive audience numbering between fifty and sixty. Professor Fordie was unmarried."

The following deaths are reported : Mr. W. J. Brewer, M.R.C.V.S., Barnstaple, who graduated on Feb. 4th, 1836 ; Mr. J. Huish, M.R.C.V.S., of the same town, who became a member of the profession on Dec. 6th, 1837.

The death has also been notified to us of W. Shipley, sen., M.R.C.V.S., late of North Walsham, on March 9th, in his seventy-ninth year. Mr. Shipley graduated May 15th, 1823, and had retired from the profession.

Notes and News.

Rabies in Finland.—The *Helsingfors Dagblad* reports that Rabies is prevalent among both dogs and cats in the province of Dara, and that orders have been issued by the Governor for the destruction of all stray dogs.

Gases in the Stomachs of Ruminants.—Mons. Reiset has recently been investigating the nature of the gases found in the stomachs of cows and other ruminants that had become "blasted" from over-feeding on green clover and similar foods. Gas present in the rumen of a cow that died scarcely two hours after access to a clover field, was found to consist of

74·30 per cent. carbonic acid, 23·46 per cent. carburetted hydrogen, and 2·21 per cent. nitrogen. Neither oxygen nor sulphuretted hydrogen could be traced. In the case of a "blasted" sheep, also, 76 per cent. of carbonic acid was found. From these observations Mons. Reiset is led to suggest the employment of alkaline bodies for remedies, amongst which he specially recommends ordinary burnt magnesia.

CATTLE IN RUSSIA.—The number of horned cattle in Russia is returned by the Central Statistical Committee of St. Petersburg at 28,600,000, or about 37 head for every hundred inhabitants. In the southern governments of the Empire, where cattle breeding is far more extensively carried on, the proportion is much greater, reaching the high figure of 111·8 per hundred of the population in the country of the Don-Cossacks. The great majority of the beasts raised are destined for exportation—a branch of commerce which has largely increased of late years. The value of cattle exported between 1851 and 1852 is given as 1,264,000 roubles, which rose to more than 5,000,000 in 1867-8, to 8,000,000 in 1869, and finally to more than 12,000,000 in the year that has just closed. The average price ranges from 25 to 45 roubles, or, in round numbers, from £4 to £8 10*s.* per head. Forty-five per cent. of the exported beasts find their way to Germany, 43 per cent. to Austria, and about 11 per cent. to Turkey and the Danubian Principalities. Other countries with which any trade in cattle is carried on do not receive more than 1 per cent., all taken together.

DISEASES GERMINATED IN HOSPITALS.—Several observers have remarked on the presence of globules of pus and microscopic algæ in the air and on the walls of hospitals. Some interesting facts of this order have recently been communicated to the French Société de Biologie, by M. Neopen, of the laboratory of La Pitié. A square metre of this wall of a surgery-ward having been washed, after two years without washing, the liquid pressed from the sponge (about thirty grammes) was examined immediately after. It was somewhat dark throughout, and contained micrococci in very great quantity (fifty to sixty in the field of the microscope), some micro-bacteria, a small number of epithelial cells, a few globules of pus, some red globules, and, lastly, a few irregular dark masses and ovoid bodies of unknown nature. The experiment was made with all necessary precautions; the sponge employed was new, and carefully washed in water that was newly distilled. Facts like those referred to make it easy to comprehend how the germs of a large number of diseases occur in the air of hospitals, and how the latter may readily become centres of infection. The same conditions, though in less degree, may sometimes be met with in private life.—*Nature.*

MR. CHAINE'S "THE SPEAKER."—A writer in the *Irish Sportsman* says, Happening to be returning from England last week by Stranraer, I observed something very blood-like walking from the train to the boat for Larne. On inquiry, I found this was Mr. Chaine's celebrated horse, "The Speaker," returning home from Liverpool. It may be recollected that the horse, in running for the Sefton Steeplechase, last Liverpool November meeting, received a severe fracture in his hind-leg. The owner, being most anxious to restore the animal, not only on account of his excellent performances, form, and symmetry, but also for his superior and rare breeding, being a great-grandson of old Whalebone, and, by the dam, a direct descendant through Pope Joan by Waxy, out of the Duke of Grafton's famous Prunella by Highflyer—a strain so invaluable, that nothing was left undone to promote recovery for stud purposes. Accordingly, after the accident, instead of being shot, as many advised, Mr. Chaine placed "The Speaker" in the hands of that well-known veterinary surgeon, Mr. Heyes, of Liverpool, and under his judicious treatment, combining skill with great care, a good union of commi-

nuted fracture in the near hind pastern has been effected, with free use of the joints adjoining the seat of injury—a case, I believe, without parallel in the annals of veterinary surgery.—*Conservator.*

EFFECTS OF SWEDISH CLOVER.—In an article communicated to the *Wiener Landwirthschaftliche Zeitung*, Mons. Moritz Rohrmann warns us against the use of Swedish or "bastard" clover (*Trifolium hybridum*) as food for horses. An attempt on his part to use it for this purpose in the form of hay proved utterly unsuccessful five or six years ago, the horses showing a marked repugnance to it, though the hay was thoroughly well made, of good colour, and agreeable smell. In 1872, the last year's hay crop being then exhausted, and the new one not yet got in, he again tried it for his horses—this time in the fresh green state. They ate it unwillingly and but sparingly, and rapidly fell off in condition. Soon an inflammation of the mucous membranes of the mouth appeared, which, together with the tongue, became covered with little pustules. These, on bursting, left small superficial sores covered with a yellow exudation, which gradually increased in depth all over the tongue and gums. This condition of the mouth necessitated a change of food, and the horses rapidly recovered. No connexion between these symptoms and the particular food in question was suspected at the time, the illness being regarded as a casual epizoötic, which had coincidently made its appearance while the special clover was in use. Later on, however, the perusal of some observations made by Dr. Pott on a form of illness caused by *Trifolium elegans* led Mons. Rohrmann to further reflection on the subject, and this year he instituted some experimental researches, with the result of demonstrating most conclusively the deleterious action of the Swedish clover. By alternately giving and withholding the fodder in question, Mons. Rohrmann found himself able to produce or to dispel at will symptoms exactly similar to those observed in 1872, and which were then attributed to some passing epizoötic. The importance of these conclusive observations can hardly be over-rated. Owing to its luxuriant growth and its excellence as food for horned cattle, the cultivation of *Trifolium hybridum* is greatly favouredi n various districts, and it is quite possible that numerous instances are to be found there of horses suffering under some apparently inexplicable malady. This is all the more likely as, according to Mons. Rohrmann, no mention of such a possible explanation is to be found in any extant work on veterinary medicine.—*The Farmer.*

Correspondence, etc.

THE CATTLE PLAGUE IN GERMANY.

To the Editor of the VETERINARY JOURNAL.

MY DEAR MR. EDITOR,—I have just read your very judicious and seasonable letter in *The Times* of March 5th on the "Cattle Plague," and being here at Berlin—the head-quarters of this outbreak,—it may not be uninteresting to you to hear from me as to what I have seen.

The whole State, we will say, is divided into thirty-six departments,—and these again are subdivided into districts; over each of these districts is an official veterinary officer, known as the "Kreis-Thierarzt" or District Veterinary Surgeon,—and the same arrangement is carried out over the entire Empire of Germany. All these men are selected for their ability, and especially for their knowledge of contagious disease; in the smaller towns the "Kreis-Thierarzt" is one of the men of the town, and has for socitey

those who are considered the leading men of the place. The "Departments-Thierarzt" is a much greater character; he is an unusually well-educated person, who must be thoroughly posted in the laws of the Empire relative to his profession, and is responsible to the local state authorities, as well as to the Ministry, for the faithful performance of his duties: the "Kreis-Thierärzte" are responsible to those of the Departments. These officers all receive salaries varying from £50 to £400 per year, and also have fees for official attendance in addition to their regular fee. They are further favoured in their practice by their official position; it being a guarantee to the public for their competency. Prussia does much to encourage graduated students to continue their studies.—This winter some thirty men, from 25 to 40 years of age, are receiving about £40 each from the Government to pay their expenses in Berlin, while they are attending the lectures and studying; and at the time I write they are being examined for higher positions. Every year a new set arrive: so you will understand that our science is properly encouraged on the Continent, and a man has some incentive to work. In Prussia, to every 4·75 square miles (geographical) there is a veterinary surgeon, and to his care are confided 1544 horses, 4592 cattle, 14,221 sheep, 2192 hogs; and there are (or were—for these figures apply to 1875) 1296 practitioners. This has no reference to the number of official veterinarians, but is merely mentioned as a fact which may have some interest for you.

These few remarks will serve as an introduction to the remainder of my letter. Early in January (the date I have not here) there was an unusual excitement noticed around our school: messengers were seen rapidly passing between the offices of the Minister of Agriculture and the school directors. It soon transpired that "der Teufel's los," as it was expressed to me—or in other words the "Rinderpest"—was in Hamburg. It took but a short time to arrange matters. Professor Müller, whom you know as an anatomist, and a great authority on this scourge, was despatched to Hamburg with a high Government officer. Another great expert was sent to the Russian frontier; every Department Veterinary officer was notified by telegraph, and in less than twelve hours an embargo was upon every head of horned cattle in Germany. If I mistake not, your Government was officially informed of the sailing of the *Castor* in sufficient time to have stopped her before reaching London. In such a case there should have been but one course, and if the vessel had been coming from you here it would most certainly have been adopted. She should have been stopped some distance from the port, her hatches battened down, and vessel and cargo towed somewhere, sunk, and paid for by the Government. If this was in reality the first infected cargo, then England would perhaps have been preserved from a serious loss; the future can alone prove what the loss may be.

To return to the outbreak in Germany. The Berlin and all other markets were most vigilantly watched, and no cattle or other animals were allowed to be moved from them alive for slaughter in the city: as I am sorry to say is yet the case, in ordinary times—for Berlin has not yet built any fine slaughter-houses like those of Paris, or of Boston in America; although the way is being prepared. All cattle that had to be moved were first inspected, and then conveyed in waggons and put directly upon the cars; and so it was all over the country. Alluding to your remarks in the *Times* on the futility of inspection when the disease is latent, a fine instance came to pass here, and which our mutual friend Professor Dieckerhoff elucidated with his customary ability. He was called to Westphalia, it being reported that a cow was in a suspicious state. On his arrival the cow in question had been killed or had died, but the illness was said not to be Rinderpest. It was however reported that another cow was sick, and this animal was immediately put under lock and seal,—and the case soon proved to be one of Rinderpest. As

the story is interesting, it may be useful to relate it in full :—This cow had been bought in Berlin by a butcher, who was a Jew ; it was there inspected and passed, was put on the cars with others, and taken to this town, the name of which I forget. The other cattle were at once killed ; but the butcher having a child suddenly die, the remaining cow was sent to a friend for a day or two, for him to keep, and during this interval the disease had time to develop. Professor Dieckerhoff traced the whole affair from beginning to end ; the cow was killed and Rinderpest proved to be present. If this cow had been killed with the others, the disease might have been spread without the real cause ever becoming apparent or being brought to light. I have purposely refrained from saying anything about the action of the authorities in these special cases ; in the investigation of some of them it was my good fortune to be present. Early one morning, about two weeks since, Professor Dieckerhoff sent for me ; it was just daylight, and with him and four other students we started for a village about thirteen miles from Berlin, where a cow was reported sick. I should state that the Government keep a very nice "turn-out" and four horses for this purpose, and Professor Dieckerhoff has this outside clinic—taking four students each time with him--your humble servant going when anything interesting is likely to turn up. We arrived in about two hours, the roads being heavy ; we met the local officers, and proceeded to the suspected farmhouse, but did not enter until we had proved our right to do so : the house being guarded, and not a person allowed to leave or enter the premises, but to speak or pass things in or out through a window. I omitted to state that Professors Dieckerhoff and Hertwig had been there the previous day, and it had been decided to allow another day to pass, in order that the symptoms should be sufficiently developed to prove the existence of the disease, although they had no doubts of the case,—the place being well guarded. During the night a trench had been dug forty feet long and about fourteen deep in an entirely isolated wood, which we could reach without crossing a public way. We removed the cow, made an examination, proved our case ; her nine companions were brought after her to the same place, with their chains and stable utensils ; the cows were then shot, after the decision by the proper officers had been given, and they, with the utensils, were at once buried—a military guard put over the place, another about the farm from which we had taken them, and also in the streets leading to the village : the inmates of this particular place being confined strictly to their own limits for the time prescribed by the law. No cattle or farm animals were allowed in the streets, and only persons permitted there with teams who had received sanction. All those who had to do with the infected cattle were most effectually disinfected ; while those who buried them had no cattle themselves, and were not allowed to go near any within the lawful time. I heard an officer say that the pastor of the village must be carefully watched ; that these gentry were unfortunately apt to be spreaders of contagium,—the guards often allowing them to pass as favoured persons,—and then they, innocently of course, must go to the stable, see things, and afterwards go to another neighbour, to mention the loss of Neighbour so-and-so. This has been often the case in Germany, I am told. The manure, the stall, and all things about the infected stable, are officially disinfected. I was surprised to see numerous military about in the fields and streets, apparently with no purpose, and yet carrying their rifles ; their duty, it seems, was to shoot every dog, cat, or valiant chanticleer which they might see straying abroad or leaving its proper quarter. Everything was regulated in this strict manner throughout. Doubtless the Prussian course may seem severe : all the cattle are killed,—not only the diseased, but all belonging to the infected farm or stable : but the law is, to my mind, essentially democratic,—it is for the good of the whole, and the cattle and utensils are paid for from the State

Treasury at market prices. Although the report has not yet been published, somewhere between one and two thousand head of cattle have been killed, and they have cost the State something like one million thalers—about £125,000.

The diseased cattle were smuggled across the Russian frontier by a man who had been successfully carrying on the business for some time; his punishment is nothing in proportion to the damage he has caused,—being but two years' confinement, if I am not mistaken. It seems now as if this outbreak was completely stamped out; the guard of official veterinarians has been much increased on the frontier, and it is to be hoped that we may be able to keep this dread ravager at bay. Trusting you may find this statement interesting,

I remain, very truly yours,
"B."

Royal Veterinary School, Berlin,
March 12th, 1877.

ANSWERS TO CORRESPONDENTS.

J. FRASER, NEWBURY.—Many thanks for the ovine monstrosity. It is, as you mention, an example of Gurlt's *Perocephalus agnathus*, and certainly a most interesting one. We shall endeavour to describe its anatomical characters in the next issue of the *Journal*.

THE letter of Mr. Watson, Liverpool, is too personal, and contains unjustiable insinuations, for which there is not the slightest foundation.

W. S.—We have made inquiry, and are informed that the late W. Field was insured against accident in the Railway Passengers' Assurance Company, for £1000, which was paid at his death.

SENEX asks why, among the inducements held out to students to enter the Royal Veterinary College, the Fellowship and Licentiate Degrees have recently and suddenly disappeared from the advertisements? Perhaps some of our readers will supply the information.

COMMUNICATIONS from Messrs. Gray, W. C. Gregory, W. A. Cox, Professor Walley, W. E. Keith, "Veterinary Student," H. Olver, H. Bath, R. Poyser, and others, are unavoidably held over to next month.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from L. T. Barker, Skelton-in-Cleveland; J. W. Hill, Wolverhampton; "Veterinary Student;" Professor Walley, Edinburgh; W. E. Litt, Shrewsbury; G. J. S. Camden, M.R.C.S., Rhyl; Professor McCall, Glasgow; "Five Points;" "Nemo;" J. Fraser, Newbury; C. Stephenson, Newcastle-on-Tyne; A. E. Macgillivray, Banff; C. W. Gregory, Bristol; S. Knott, Royal Artillery; G. Gray, Bakewell; J. Gerrard, Market Deeping; J. McKenny, Dublin; W. Dacre, Altrincham; H. Olver, Tamworth; L. D. Moutray, Dublin; H. Bath, R.A.; "B."

BOOKS: *W. Fricker*, Chirurgisches Vademecum für Thierärzte; *H. Weiss*, Grundriss der Arzneimittellehre für Thierärzte.

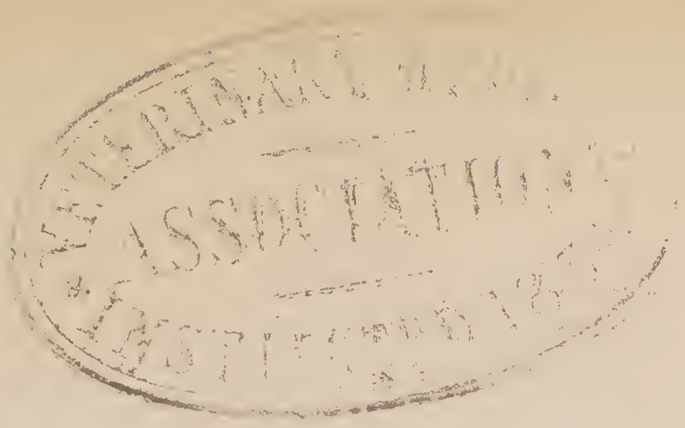
JOURNALS: *Live Stock Journal; Oesterreichische Vierteljahresschrift für Wissenschaftliche Veterinärkunde; Archiv für Wissenschaftliche und Practische Thierheilkunde; Wochenschrift für Thierheilkunde und Viehzucht; Annales de Méd. Vétérinaire de Bruxelles; Animal World; Edinburgh Medical Journal; Practitioner.*

NEWSPAPERS: *Liverpool Mercury; Farmer; Agricultural Gazette; Melbourne Medical Record; Melbourne Argus; Australasian; Western Mail; Shrewsbury Chronicle; Ross-shire Journal; Weekly Durham Chronicle.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles ccannt be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.



THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MAY, 1877.

ANTHRAX FEVER.

BY PRINCIPAL WALLEY, VETERINARY COLLEGE, EDINBURGH.

In the latter part of October last I received from Messrs. H. and A. Hunter, of Newcastle, a package containing portions of the viscera of a horse, with a letter detailing the history and symptoms of a number of cases in horses and cattle which closely resembled "Charbon."

Examination of the portions of viscera sent, with consideration of the history and symptoms of the cases, enabled me to agree with Messrs. Hunter as to the nature of the disease, and to advise them to look carefully into the food and water supply, and to inaugurate a thorough system of change in the feeding. At the same time I suggested that, in the absence of any impurity in the food and water, the cause of illness and death might probably be traceable to the use of large quantities of top-dressing (such as nitrates or phosphates), or to the use of sewage as a manure.

On Nov. 3rd I received the following letter from Messrs. Hunter, with the samples of hay therein alluded to :—

"Your letter to hand. We may mention that when attending these cases we made every inquiry respecting the character of the food which the

animals had been getting, but could learn nothing definite ; since then, however, we have ascertained that the hay which they had been eating was a portion of the same which had been used by several parties in this town where many similar fatal cases had occurred. The following is a short history of the cases, so far as we can learn :—The hay was grown on a farm a few miles from here, and a few months ago they had several deaths amongst their own animals, the hay being supposed to be the cause ; a neighbour bought some of it with a like result. Within the last two or three weeks it appears to have been sold into Newcastle, where one party has lost four cows and a pony, one three cows, and another a few cows and horses, in addition to the cases of which we wrote you. There would seem to be little doubt that the hay has been the cause of the whole mischief ; we suspect it has very likely been caused, as you suggest, by some strong chemical top-dressing, such as nitrate of soda ; we have sent you two samples of the hay, one from a portion which the animals had been eating, and the other taken from some of the same lot in the possession of the hay dealer from whom it was bought. We hear there is likely to be an action taken against the farmer on whose place it was grown, and we would like you to give the matter your careful investigation."

The only noticeable feature in the hay was its excessive coarseness (it was reedy) ; its colour, odour, taste and state of preservation were good. In acknowledging the receipt of this letter and the samples of hay, I advised Messrs. Hunter to procure a worthless horse or other animal, and feed it upon the same kind of hay, carefully watching the result. The samples of hay were handed over to Mr. Aitken (Professor of Chemistry in the College), and his assistant, Mr. Paterson, who kindly analyzed them for me, and found twenty grains of Nitrate of Soda to the pound of hay.

On Nov. 7th I received the subjoined letter :—

"Before receiving your letter we had commenced to feed a rabbit on the hay, this being the only animal we could secure at the time ; but we have since got an old pony, which we are also feeding on it, and on your suggestion giving a decoction to drink, which no doubt will hasten the poisonous action, if any. We expect to get a goat, and intend to submit her to the same process and give her milk to the rabbit."

And on Nov. 12th the following communication :—

"We have had another similar case to those we wrote you of,—same symptoms and *post-mortem* appearances ; we have forwarded you a small bottle full of the blood taken from this animal after death. This animal was the property of a gentleman living at Greenside, about eight miles from

Newcastle, and the hay was got through the same party as the other, and although it is a different kind, it is supposed to have been grown on the same farm. We are still feeding the animals on the first sample of hay, but as yet without any result."

With this was a small bottle full of blood—the latter I had requested for the purpose of microscopical examination—and on submitting it to this test it gave the usual result of disintegration and crenation of the red corpuscles—the blood itself being of a damson hue and communicating the same colour to the skin of the hand when allowed to flow over it.

On January 1st, 1877, I received the following and final letter on this subject from Messrs. Hunter :—

"We have little more to add to our previous communications in reference to the outbreak of Charbon. We have been feeding a horse on three different lots of hay, all of which were said to have had fatal effects on different animals, but as yet he shows no sign of any ill effects. At the request of Mr. Borries, the owner of the last case we had, we sent a sample of the hay to Mr. Pattinson, analytical chemist, but he was unable to obtain any results. We may mention that another animal belonging to Mr. Barries, has been amiss ever since being fed on the same hay; we treated her and another carriage-horse at the time the other mare died. The mare has never been quite well since; she is sometimes very dull, although she is a very heavy feeder ; she will sometimes come out of the stable quite full of spirits, and then she will suddenly become quite the reverse ; her pulse is slow, about 28, and she sometimes sighs in her breathing : with the exception of these symptoms there is little else to be observed. We gave her at first a physic ball, and followed that up with doses of chlorate and nitrate of potash and tonics, and we are now giving iodine and iodide of potassium."

The result of the analysis of the hay by Mr. Pattinson seems to have been negative, but that of Mr. Aitken and Mr. Paterson shows the presence of nitrates in large quantities.

Messrs. Hunter's experimental feeding of the pony also gave negative results ; but one, or even several such experiments, may fail to elucidate mysteries of this kind ; the whole circumstances, in my opinion, point to the probability that these cases were produced by some peculiarity in the food or water.

CRUELTY TO ANIMALS IN INDIA.

BY RICHARD POYSER, M.R.C.V.S., "THE CARABINEERS," YORK.

IN the first number of the *Veterinary Journal*, I directed attention to an operation on bulls termed "Orchithlasis" (testicle-crushing)—denouncing it as barbarous and brutalizing, and unworthy of the age; and I reiterate that the Indian Government ought to abolish such an unsurgical and sickening procedure. This is simply said, but then it may be asserted that Government really knows nothing about the practice it unwittingly allows to be carried on in its cattle studs. In order that it may have another opportunity of acquainting itself, and so be in a position to act on behalf of male animals—bulls in particular—I preface a chapter of animals' wrongs and grievances, with reference to a subject that has been previously and fully dealt with. Inured by force of habit, rather than by desire or necessity, superintendents and native operators of studs must surely be morally blunted to the excruciating sufferings of the poor brutes, when such inhumanity is not only countenanced, but exhibited to visitors as a "curious" spectacle. Now, as the animals cannot plead their own case, we must do so for them; for no one else is likely to say a word for them, so long as the bullock supply meets the bullock demand, and the percentage of deaths from Orchithlasis—because of its reputed absence—creates no alarm in the public exchequer.

The veterinary surgeon is the most competent person to represent a case like this, as he should be best able to judge of the acuteness and extent of an animal's sufferings; moreover, it is his earnest desire and bounden duty to endeavour to relieve his speechless patients of pain, whether the attendant or result of disease, or associated with those severe operations which civilization on the one hand, and domestication on the other, alone legalize. Castration, never painless, except under anæsthesia, is one of the few warrantable acts of vivisection which, whilst promoting the well-being of the operatee in his numerous lines of labour and usefulness—especially where the nature of the employment requires commingling of the sexes—

is imperative for the necessities and comforts of humankind, and very needful, if not indispensable in some countries, to check the perpetuation of physical and moral imperfections and wholesale degeneracy.

Though this is so, no right-minded person will contend that the rudest and most barbarous method of emasculation, which had its origin when veterinary science existed nowhere, should be in vogue at the present time. Wisely did the Indian Government act when it placed the direction of its horse-breeding establishments under experienced veterinary surgeons, who, not long ago, except in their own hospitals, were looked upon as mere nonentities, and jealously tabooed when they ventured beyond what were *then* considered the confines of their duty. The aspect of things eastward has vastly changed in our favour of late. Commendably for its own interests would the same Government act by electing veterinary surgeons to the executive administration of its cattle studs, in the room of those who have interest in high places, but little or none, save a monetary one, in respect of the services they are unfitted, not to say unqualified, to perform. This being attained—and ere long it must be—we are sure no further occasion will arise for our referring to these cruel and disgraceful vivi-smashings. *Apropos* of the reasons for castration, I would mention that such a palpable degeneration was observed in the equine race of India, that in the Punjab gelding was suggested and put in force as much as could be, to arrest the downward tendency; and those colts that are adapted to transmit nothing but deformities and vices are castrated.

The entire horses which have been sent out to India from England have been impractically selected, and quite inconsistently with regard to the progeny desired to result from their union with particular mares. A certain dealer is said to have despatched a stallion to India for breeding purposes, which had been sold to him by the King of Italy simply because it was impotent and unable to procreate. But we are digressing.

No country under civilization calls out more loudly to her governors and civilizers, than does India, for the suppression of cruelty to animals. Cruelty and downright torture are to be

seen every day in every city, town, cantonment, bazaar and suburb of our Indian Empire,—cruelty in a number of forms that could not obtain in England. First of all, we may reflect upon our own short-sighted policy in not providing adequate shelter to ALL troop horses, especially to those imported from temperate climes. If it is not actually cruel, it is certainly far from humane, to expose them to the pernicious effects of a tropical sun, and hot winds and rains. It is piteous to see lines of horses standing in the open, month after month, under a sun that, forsooth, almost blisters them. We have seen plain bays, and other shades, dappled in exposed parts by solar influence. A fringe protects the eyes and a folded blanket the spine; but the head is fast, and one or both hind-legs heel-roped to a peg, limiting the use of the limbs, and constraining the disposal of the whole frame; so that there is no chance of changing front to avoid sun, wind, dust, or rain. Horses in India require the use of all their limbs, extra freedom for their heads, and tails longer than fashion, regulation, and smartness dictate, in order to defend themselves from the attacks of stinging insects, which at certain seasons exist in myriads, driving the tethered brutes into a state of frenzy. There they stand, frightened as well as tortured, snapping at first one side and then the other; shaking their heads or bodies vigorously, stamping, kicking or rolling as far as the ropes allow, often falling away in condition or injuring themselves under the constant irritation in the vain endeavour to get rid of the pests. To mitigate their sufferings, the remedy resorted to is of such a nature that, while it renders the vicinity of the stables untenable to noxious insects, it irritates the respiratory organs and eyes of the horses in a marked degree, and is, therefore, only a shade better than the evil. Small heaps of litter, grass, and manure, are placed and lighted, so as to smoulder between, or to windward of, the horses; and the pungent smoke, in some measure, is a serviceable insecticide. We do not mean, however, to infer that the shelter usually given to troopers affords an immunity from insectile attack, but roof protection considerably enhances their comfort and condition in all seasons, especially where there is any tendency to cutaneous affections. There are but few stations now where the horses of

Europeans are unsheltered—*the reverse being the case in respect of Asiatics*—but many of the stables require rebuilding on other sites. Almost all are built too near each other, are too much confined by surrounding structures, have insufficient roof ventilation, are not deep enough to protect from the elements, and the stalls are much too narrow,—all of which, co-operating with the mephitic effects of indifferent or bad drainage, as we have before shown in these pages, have proved more deleterious to equine health, and more expensive to the State, than even the old system of open-air picketing.

We may now dismiss the mildest section of cruelty that we have to deal with, and turn our attention to the ponies, one of the most useful classes of animals in India. The numbers that were, at one time, worked in an unfit state on the Grand Trunk and other roads was appalling, and we must confess to having hardened our hearts over many a 200 or 300 mile journey (by pony dâk), to the end of which remonstrance on the practice of the cruelty enforced did not tend to hasten us. The numbers at the present time are reduced by the humanizing influence of railways; yet, off the line, thousands of these little animals have to begin their drudgery at a very youthful age, and long before they are sufficiently developed to withstand the ordinary concomitants of the climate, conjointly with over-driving, overloading, poverty, beatings, galls and sores, or the torture of the *flame* applied to overcome a stubborn disinclination to move.

Often they are harnessed alongside older stagers, and when once started, must continue at a breakneck pace, irrespective of inability, to avoid indefinite halts between the stages. In very hot weather they are sorely distressed, but unheeded: the mails or the passenger must finish the journey, and "the quicker the better," says the latter. Extra demand for, or a paucity of ponies, increase their labours and the incomparable wretchedness of their lives. The native is too apathetic to regard lameness as suffering, unless he himself is the afflicted one.

It is a common practice to light a fire under an obstinate pony, to induce progression. This may be torturous or intimidating, depending upon his temperament. By over-work and over-weight whilst young, growth is stunted and form altered to

such a degree that the fetlocks almost touch the ground, each foot describing an arc of an irregular circle when progressing under a load. The toes are turned out, the elbows and hocks in, and the hind-limbs, forced too far under the body, serve more the part of trestles than organs of propulsion. Indeed, I have seen many instances where the hocks graze or flirt off each other at every step, and whilst at rest the point of the right hock is seen projecting in front of and beyond the outside of the left one, or *vice versâ*—in fact, crossed. This uncongenital deformity is very prevalent amongst the puny, degenerate donkeys, employed from their foal-hood to carry heavy loads of wet linen from the river or tank side, or bricks, earth, etc., from place to place.

Degenerate, some neither bigger nor stronger than a three-months'-old calf, dwarfed, deformed, ill-used, over-worked, lame, lousy, and generally neglected, often feeding on horse manure,—these are the more constant conditions inseparable from an Indian donkey's existence, and yet one seldom sees a "dead donkey." It is degrading to a respectable native to ride on a donkey; hence it is that the latter is but little regarded, and, with the unclean pig, left to shift for itself as a scavenger.

Ponies employed to bring in the daily grass forage of troopers are frequently ill-treated by overloading, and were they not watched by the veterinary surgeon, would be the means of introducing contagious diseases, and would suffer from wounds caused, first of all by badly fitting pads on which the grass is packed in nets, and aggravated by neglect, poverty, over-work, dirt, and insects. Farcy, lately prevalent in the 11th Hussars, at Umballa, is said to have been communicated from the grass-cutters' tattoos. Very probably, for unless better cared for than is the rule, they are fit subjects for the generation and spread of any communicable affection. I may, therefore, very reasonably throw out the suggestion that these indispensable animals should be inspected by the veterinary surgeon much more frequently and regularly than is the case. A great, fat, lazy native does not scruple to ride a pony that will barely carry half his weight. (Vide *Illustrated London News*, 3rd Feb.)

OXEN have their troubles; and few that are in daily work

can boast of a perfect caudal appendage. Some are curtailed, others tail-less, whilst the majority of tails are diverted from their original form by dis-articulations more or less numerous, which must have caused excruciating agony in their production. In some instances these distorted organs are useless to their owners, owing to partial or complete paralysis—their crooked and gnarled appearance adding no beauty to the forms in front. Instead of being ornamental and useful to an ox, his tail becomes a nuisance, and detrimental to his very existence; for the driver, manipulating it as the handle of a fly-wheel, converts it into an accelerator of muscular power, by rapidly revolving or twisting it into hard painful kinks, which inhuman process is the direct cause of the dislocatory fractures. In the poor beast's endeavour to escape from the torture thus induced, he hurries forward, slackening his pace as soon as his object is gained; but another winding up re-invigorates him. Pressure and the see-saw action of the yoke on the neck in front of the hump—peculiar to Asiatic cattle—often causes deep sores; and many an ox have I seen trudging along, march after march, with his muzzle close to the ground, trying to avoid further injury. Angry and unfeeling drivers make use of the cord that passes through the nasal cartilage for guiding purposes, as an instrument of torture. Beating, too, is carried to a cruel extent. If marching be the order of the day, no matter what the ailment, an ox must either proceed as best he can or be left by the roadside to die. I have seen an ox literally charred on both sides by the fires lit to force him to rise. Starvation is another of his grievances. And as he is, more or less, a sacred beast, he is never killed—excepting Government property—to save him dragging out a miserable existence, till life naturally leaves him. I might mention other cruelties perpetrated through religious prejudices. A bull calf becomes sacred, somehow or other, and he is put into a place out of which by-and-by he is unable to get, by reason of his growth, and there he remains the rest of his life. Another one, with a pair of adventitious fore-limbs hanging from the shoulders, struts out his life in a bazaar, and eventually from over-indulgences contracts Gonorrhœa; his penis is withdrawn by and lost in a heavy mass of excrescences

which, covered with dirt and flies, render him an unsightly and pitiable object. Another bull was so deformed in his fore-extremities that he had to walk on his knees; the hoofs from disuse had grown to a prodigious size. These are cases which just come to memory, but there are numberless others.

CAMELS are worked, often enough, in an unfit state, from lameness, and sores on the back, sides and joint-pads; and are ill-used by sharply jerking the cord tied to a peg fixed in the nose for leading or guiding purposes. Sometimes they seem to require severity, for they are not at all the meek, placid creatures one meets with in an English menagerie. They are liable to "split up" when travelling in wet weather—except on macadamised roads—by the sudden divergence of the hind-limbs from each other. They are over-loaded and starved by careless drivers, and too frequently may be seen working under heavy loads to the very day of their accouchement, and continuing their march the day following with the offspring at foot.

ELEPHANTS are severely prodded on the head by their drivers. This may be needful, and can be cruel. As they resent injuries inflicted, they are less liable to be tortured than other domesticated animals. Staff Veterinary Surgeon Hallen has proposed to castrate elephants, to render them less dangerous and more useful than they (the males) are when "musth" or rutilant; during which period of great—sometimes intense—excitement, they are exceedingly savage and destructive, requiring close and secure confinement until the season has passed. A very good idea, but a stupendous undertaking!

Sheep and goats are seldom objects of torture at the hand of man: poverty and degeneracy are their chief curses. But ram fighting is a national and cruel pastime. Natives possess no sporting proclivities in our sense of the term, but they revel in a ram fight, and will assemble by thousands to witness one of these battering contests. The rams seem to be bred specially for duelling purposes, are well fed, regularly exercised, trained and shampooed and kept alone, tied up like dogs; they are powerfully built, with strong heads and massive horns. When ready

for action they are held by their respective owners and backers at about twenty yards apart, and on being released furiously charge each other with their heads placed low, not as though they were animated, possessing brains and eyes, but more like a pair of steam rams, so stolidly and unconcernedly do they appear to act. The collisions are awful, and they continue until one or other is battered into senselessness. It is a cruel sight indeed, and "beats cock-fighting," which is not cultivated. Dog fighting is seldom designedly indulged in, but dog-spearing is a mounted practice sometimes carried on by European gentlemen. It is, however, cruel and unsportsmanlike. Pariah dogs are numerous,—starvation and mange being the fate of many. Neither dogs, cats, nor pigs, meet with much torture; the latter being unclean, are religiously [kept so] avoided, but tolerated in every village as scavengers—and, verily, they are such.

Quails and other birds are kept for fighting, and the practice is indulged in to an amazing degree. I have known a native cook pluck quails alive and then kill them for the table, because, being small birds, they are more easily manipulated during the deplumatory process, and there is less liability to injure the skin. These reasons do not justify the cruelty. The mode of killing a fowl is to cut its throat, and throw it down anywhere to jump and struggle out its life. In this state I have seen them run about, and even survive—to be found, objects of pity, huddled up in a corner. And these little tragedies are daily enacted in all European households, unknown to or disregarded by the consumers. For the suppression of cruelty to animals some legislative interference is called for, as the above facts will make evident; and a very extensive field is open for the good offices of a Royal Society for the Prevention of Cruelty to Animals in our Indian Empire.

MENSTRUATION IN THE LOWER ANIMALS.

BY JOHN GERRARD, M.R.C.V.S., MARKET DEEPING.

ALMOST every one who ventilates an opinion or hazards an expression, and does so much as to come to a conclusion in his

own mind, is conscious of some contrary opinions or practices which he is proposing to set aside or dispense with. I have little doubt but that Mr. Macgillivray had the idea in his mind, when he penned the communication which appeared in the December *Journal*, that the phenomenon of menstruation in the lower animals was disputed by many good authorities—indeed admitted by few, and that his case of "*impervious vagina*" was all that was needed to prove to a demonstration that it was in every respect identical with that in the human female. At least he told us "the case"—to use his own words—"owes much of its interest, in my eyes, to the fact that it goes to prove the existence of a *menstrual discharge* in the brute female, analogous to that in the human female."

In venturing to challenge the genuineness of his conclusions from such doubtful premises, I endeavoured to show, from his own statements, that the "*immense* quantity," and also the "*nature*" of the discharge, were incompatible with being similar to this condition in the human female. I also suggested that, in all probability—judging from the nature and quantity of the discharge, as recorded by himself—it might be more properly regarded as a blood-tumour or *Hæmatoma*, which I had frequently found in such subjects as he described, as well as in others, and presenting pretty much the same symptoms, and, I may also add, the same termination. This, however, would seem to have pressed him into a corner, and in his endeavour to get out, he vaunts his "actual experience," and "what he has seen"—as if he had had some experience which he had *not* seen—in preference to "*theory*" and *cursory remarks*" upon "Hæmatoma," etc., and emphatically states that his case had nothing in common with either of these, and that therefore my conclusions were foreign to the point in question. Further, he assures us "his case was simply one of congenital malformation —an entirely impervious vagina—and the sero-sanguineous fluid the *result* of the retention of the *usual* œstral products"; while, a little farther on, he tells us that "his case was neither Uterine Dropsy nor pure and healthy menstruation." If it was not *pure* and *healthy* menstruation, it *is* clearly foreign to the point in question, and proves nothing regarding the identity of the phe-

nomena in the different species. Nor will it answer the purpose any better to admit it as being the product of disease.

All physiologists and obstetrists agree in admitting an analogy between the two states of "heat" and menstruation, and that the essential accompaniment of both is the maturation and extrusion of ova; while all admit that the discharge from the lower animals is *frequently more or less* tinged with blood; and, further, all admit that the discharge in the human female is more abundant and less variable than that of the brute. This I believe to be the case; but for one bovine female that you find having a sanguineous discharge at the period of heat, you will find thousands which have none at all, either before, at, or after œstrum. Indeed, it is the exception and not the rule; while in the human female it is the rule, and it is rarely absent in healthy subjects. And this is easily accounted for by anatomical conformation. To use the words of Fleming, who is a believer in the constancy of the sanguineous discharge in the lower animals: he says at page 57 of his "Veterinary Obstetrics," "The uterus is, therefore, an erectile organ, like the penis, and its erection is connected with the periodic hæmorrhage from its inner surface. The venous sinuses in the meshes of the muscular tissue, crossing each other at the hilus of the ovary, are partially compressed, and the immediate result is the distending and erection of the bulb of the ovary. This modification in the ovarian circulation extends to the uterus; so that both are in a state analogous to erection; the prolonged tension is communicated to the vessels and capillaries of the mucous membrane; the epithelium is shed, leaving the tunic of the capillaries exposed, and this soon gives way, whence results the hæmorrhage, which persists as long as the erection and obstruction to the free flow of blood through the veins continues. This is the case in the human female, but it must be admitted that, in several animals, the erectile formations are either in a rudimentary condition or entirely absent." And, judging from experience, the bovines are among these "*several.*" This being admitted, and Mr. Macgillivray being unable to controvert it, how does he account for the *immense* quantity, as also its *sero-sanguineous* nature? If it is, as he quotes from Brande or

Burns, "*a solution of the colouring matter of the blood in a diluted serum*," as he says his case was, it has no analogy to the same condition in the human female, in which it is always very viscid, glutinous, dark, and tarry, and which, he says, he is perfectly aware of. *A solution of the colouring matter of the blood in a diluted serum*, savours more of a pathological product of a serous membrane than an exudation from a mucous one. Such fluid usually occurs in the human female as the result of the cauliflower or cancroid tumour,—a condition which has rarely or ever been diagnosed in our patients, and would be very unlikely to be present in such a young subject as Mr. Macgillivray's.

With the question of quantity it is difficult to deal, unless we know what idea Mr. Macgillivray attaches to the term "*immense*." But, taking our own ideas, we could not be far beyond the meaning of immensity if we put it at *two gallons*. And this we shall find would be far above the quantity which could accumulate from such a source in such a subject. If we take the highest quantity admitted by Fleming as ever seen in such cases—two ounces—and suppose that the heifer had had regular discharges such as he contends for, for twelve months, or about seventeen in all, this would only give us about half that quantity. Where does the other half come from? Mr. Macgillivray would probably reply that it is the result of the irritation of the mucous membrane by the quantity retained. This, however, is a mere hypothesis; it is not proved that it so acts in the bovine female, and it is proved that it does not produce this result in the human female; so that the analogy here breaks down, and the case proves nothing to the point.

I had a case last week similar to the one recorded by Mr. Macgillivray. The subject—a two-year-old *white* heifer—had been put to the male about three months before, came regularly in heat every three weeks, and was again put to the male; but about two weeks before I was called in she had been served by a fresh male, and a few days afterwards she was seen to strain, and continued to do so. The owner, Mr. Thomas Thistletown, a small farmer, thought she was constipated, and gave her some opening medicine, but with no benefit. When I saw her she

would not eat, strained violently at intervals, had lain down and could not get up, and as she was in fair condition, and no hope of doing her any good, I advised she should be slaughtered. The vulva was impervious, even to one finger, from the fact that the tumour occupied nearly the whole pelvic cavity. The hand could be introduced into the rectum, and the situation of the tumour ascertained on one side; but the extent of it in the line of the rectum could not be ascertained. As I was too busy to attend the slaughter, I gave orders to preserve the tumour; but, unfortunately, the butcher's son threw it to the pigs, and when I called to see it, it was nowhere to be found. He said that "it reminded him of a gallon jar." I was very much disappointed that I could not send it for the inspection of the editor of the *Veterinary Journal*. This is a case which I consider very similar to the one recorded by Mr. Macgillivray, and such as frequently occurs in this quarter under similar circumstances, and which I ventured to suggest might explain the nature and origin of his case, although the owner of his one did not admit its connection with any male.

The case recorded by Mr. West (and which Mr. Macgillivray says was "exactly like his") was of the same nature: that she had been served by the bull, and, the owner thought, was in calf, proves nothing regarding the existence of a menstrual discharge in the lower animals. And surely we do less violence to all known physiological and pathological laws by referring such cases to such causes, than assuming the cause to be something which neither physiology nor pathology—to say nothing of practice—will warrant. I presume, however, no good can result from any further discussion of this subject in the columns of the *Journal*. For notwithstanding the opinions of Fleming and Saint Cyr, the assertions of Mr. Macgillivray, or the testimony of the "*herd*-laddies" and herdsman whom he so very kindly and confidently counsels me to consult, I still maintain that "all experience confirms the contrary." Nor is this experience gained from handbooks or herdsmen, however experienced the latter may be, but from a twenty-years' study of the book of Nature.

It would seem, however, that the negative idea is still pretty prevalent in the hyperborean regions of Mr. Macgillivray,

among owners and herdsmen; or why did the owner of the subject of the "first case," quoted by him in the *Journal,* require to fetch a professional man some two miles to tell him that his cow was only *in heat,* when he was alarmed by the catamenial discharge? If it be quite a common occurrence, as Mr. Macgillivray would have us believe, what alarmed the owner?

Moreover, the case is another assumption on the part of Mr. Macgillivray; at least, he did not say he examined the cow, but was satisfied with seeing her get on another's back; and because she did so he concluded that the blood observed, and which alarmed the owner, was nothing else than the catamenial discharge. It is just possible that it might have had another origin, and that the surmise of the simple-minded owner as to the cause was the right one. I have known of such cases, at least. And I have at present a case of a heifer to which I was called in consequence of a very profuse discharge of blood from the vulva, which caused the owner to think she had aborted; but I found, upon close examination, that the blood proceeded from a wound in the floor of the vagina, about an inch and a half from the external opening. It was an incised wound of about an inch in length on the floor of the canal, and penetrated the tissues to the depth of two inches, and had evidently been inflicted from above downwards and lacerated some of the arteries; for on squeezing out the clot which had stopped the hæmorrhage, a very profuse flow ensued,—so much so as to require stitching up the wound to staunch it. The incident in itself is trivial enough, and hardly worth space in the *Journal;* but it tends to prove that a discharge of blood from the bovine female is regarded as an abnormal, rather than a normal condition, by owners and herdsmen in this region, as well as in the north of Scotland. If we are to accept their opinions, we should undoubtedly obtain a distinct negative to the question; but, indeed, their testimony is not needed, for the facts are so obvious that we wonder how any scientific man can seriously entertain and discuss the subject.

Had such a phenomenon been so constant in the bovine female as it is admitted to be in the human, there would have been no

room to doubt it at this time of day. We should have had more cases of uterine disease, similar to those met with by the human obstetrist—diseases of suppression, non-elimination, and vicarious secretion; seeing that our domestic animals are so much exposed to extremes of temperature, which are such a fertile source of diseases of this class at these times, in the human female.

The anatomical peculiarity, already referred to, renders it all but certain that nothing more than a temporary physiological congestion, if even that, can ever occur in our domestic female animals; for had the whole extent of the mucous membrane of the horns and body of the uterus been denuded of its epithelium, and the capillaries given way at each period of "heat," we should have had such an amount of discharge that "he that runneth might observe it"; and it would not have been left to be demonstrated by a doubtful case, here and there, of impervious vagina. All the sanguineous elements ever observed in the œstral products of our domestic animals can, I think, be satisfactorily accounted for by the rupture of the Graafian vesicle, which alone seems to be the end and object of the phenomena in them.

It is not so, however, in the human female. The mucous membrane of the womb bears a very peculiar relation to the entire organism, inasmuch as it acts the part of a safety valve to the constitution. Hence its peculiarity and importance, and the many and obscure diseases that it is subject to, which we never find in our patients; the superfluous sanguineous elements in which are stored up as fat, as a source of supply of food for the human family.

These facts I consider favour the great truth, that Nature in all her features bears the impress of Divine Wisdom, and that whenever effects are traced to causes, and formation considered in respect to design and purpose, we perceive a perfect adaptation of means to ends, without defects or without redundancy.

Notwithstanding Mr. Macgillivray's denials, he makes some admissions which are fatal to his argument. He says: "No writer on the subject, in so far as I am aware, has ever *assumed* that the periodic œstral discharge in brutes is as invariable in appearance, as copious, or as well defined, as in woman." Just so; and therefore I contend that the condition described by

him is incapable of being induced by this cause. But why should anything at all be assumed about such a condition?—for it is capable of proof, if it be such as to induce the phenomena he contends for. But it has not been proved; and the supposition that it remains in the vagina, becomes coagulated there, and passes, *unobserved*, during micturition, is like "begging the question."

If the quantity were so great as it must be from such an area, it could not be so retained; and if it were coagulated, it could not pass unobserved. Besides, it is one of the peculiarities of menstrual blood that it rarely coagulates.

Even Saint-Cyr admits its inconstancy, but says that "it is normal." If it is normal, how can it be inconstant? It is rarely seen except about the first period of "heat," and then there is but a mere streak, such as would arise from the bursting of the ovum from the ovary—certainly never such as would amount to the *immense* quantity recorded by Mr. Macgillivray.

But I must have done with this subject, although it be not exhausted; for fear lest I exhaust my readers' patience in this *sanguinolent* discussion.

I should like, however, if I have not already encroached too much on space, to notice an incident or two of student life, relative to the capacity of medical men to judge on matters pertaining to the profession. They are suggested by Mr. Macgillivray's allusion to the *ipse dixit* of a "well-known lecturer on physiology and histology," as settling the question of a sanguinolent œstral discharge in the lower animals for ever.

While a student at the Royal Veterinary College, in Clyde Street, we had, as one of the vice-presidents of our Society, a medical gentleman—an extra-academical lecturer on obstetrics. He is since dead, but before his death was a professor of midwifery in a Northern University; so that I shall not mention his name. He was a worthy man, and even an authority on such matters. He attended our meetings frequently, and imparted much that was useful to us. And he even volunteered to read us a paper, which he had prepared to refute an assertion made by some one, that "*the human female needed no assistance in bringing forth her young, any more than the lower animals.*"

In order to do this, he entered very minutely into the comparative anatomy of the pelvis of the mammalia; and (would you believe it?) he actually did not know the difference between the pelvis of the mare and the cow, nor the mare's pelvis from that of the horse; and besides some other slips, he made the astounding assertion that we never had *Hydrocephalus* in our subjects, therefore assistance was never needed for them.

It was a students' meeting, none of the professors being present; and we convinced the doctor that he was wrong, by producing a hydrocephalic specimen from the museum. Mr. Andrew Spruell, M.R.C.V.S., Dundee, was the student who brought the specimen from the museum.

The same medical gentleman, "the well-known lecturer on physiology and histology" to whom Mr. Macgillivray refers, told me, when dissecting the urinary organs of an ox, that the two fibrous cords, called retractors of the penis, "were receptacles for semen, as the act of coition in the ox tribe was very quickly accomplished, therefore they were necessary for that purpose." But I could find neither opening nor outlet, nor any structure that could warrant such a conclusion; nor yet could I discover any authority who said they were anything else but what they really are—"retractors" of the organ. And I have since seen two cases in which I considered they were either absent or diseased, for the animals could not perform the act of copulation, although the desire was strong in both; and, further, I have heard that a bull in this condition had been operated upon by cutting down upon and dividing the cords. Of course, had the doctor examined them, I have little doubt but that he would have found out his error. I only mention the circumstance to show the evil of too hasty a generalisation without making oneself acquainted with structure, and the folly of trusting too implicitly to the *dictum* of any authority, however eminent, or following blindly and submissively the monitions of any teacher —whether medical man or herdsman—unless such *dicta* are borne out by facts, and their monitions accord with reason, science, and common-sense.

FALSE CONCEPTION IN A HEIFER.

BY C. W. GREGORY, M.R.C.V.S., BRISTOL.

THE recent interesting papers in the *Veterinary Journal* on some peculiar obstetrical cases, have brought to my mind one occurring in 1874, of which the following are the particulars, as near as I can remember.

The subject was a pure short-horn heifer, bred by the owner, and sixteen months old when put to the bull. About five weeks afterwards, a thick white slimy discharge was observed to escape from the vulva; but no particular notice being taken, it continued to discharge for three or four weeks, when she was attacked with acute pain and heaving, as though in labour; these pains rapidly increased, and became so intense that twice the uterus was forced partially outside the vulva.

On Sept. 3rd I was urgently requested to go to see her—a distance of nine miles; and on arrival I found her standing, very excited, back arched, frequently moving around the shed, and suffering from very severe continuous parturient pains. Endeavouring to ascertain the cause, I passed my hand into the vagina, but had some difficulty, in consequence of the folds of membrane obstructing the passage, which I found to arise from swelling and the backward pressure of the uterus. Overcoming this, and reaching the *os uteri*, I discovered that orifice almost closed; but by using gentle pressure I passed one or two fingers in, and felt what appeared to be the placental membranes distended with fluid and of considerable bulk; however, I could find no trace of a fœtus. Withdrawing my hand, I passed it into the rectum, and found the uterus very distended with fluid, but yet no indication of a fœtus. The pains were still continuous and most acute; I ordered a draught of Spirits of Chloroform. Being now desirous of ascertaining the contents of the uterus, I passed a catheter in and forced it through the membrane within the *os uteri*, whence flowed through it with much force a stream of sero-sanguineous fluid of a most foul odour, and of which about three or four gallons escaped. I then injected tepid water, with a little Coal-tar Extract as a detergent, and ordered an aperient, and also febrile medicines.

5th.—Patient appeared easy and progressing favourably.

8th.—On again attending by request, I found the heifer in a similar state as on my first visit: no appetite, much excitement, with very acute and continuous labour pains. On inserting my hand, I found the *os uteri* closed; dilating this, and passing my hand into the uterus, I tore open the impeding membranes as much as possible, and liberated about two or three gallons of a similar fluid as before, together with some clots of what appeared to be coagulated blood. I then attempted to retain a tube in the organ, and after several failures I succeeded in doing so by fixing a piece of canvas with gutta-percha plaster on each side of the breech, and tying a glyster tube—eighteen inches long—to them. This was of sufficient strength to resist the expulsive efforts of the heifer, and enabled the attendant to inject tepid water with Coal-tar Extract or Carbolic Acid occasionally. I ordered Tinct. Opii and Spts. Chloroform to be administered alternately, also mustard to be applied to the loins.

9th.—Heifer still suffering from pains, which were continuous but less acute; back arched; presented a depressed and worn appearance. On again examining the uterus, I found the placental membranes in a partially decomposed state, and attached to the whole surface of the uterus, except some small portions, which had already escaped. These I carefully detached and brought away in segments, until the whole—about 2 or 3 lbs.—was withdrawn. After this the uterus was thoroughly cleansed by means of a horse catheter attached to a bladder of warm water.

The tube was again fixed, and occasional injections as before ordered; also an occasional dose of Spts. Chloroform and ammonia, or on recurrence of pain Tinct. Opii to be administered. Mustard to the loins was again applied.

13th.—Pains had been occasional, but not severe; back still slightly arched; regaining appetite; she presented a more tranquil appearance; the uterine discharge was comparatively slight. From this time the heifer improved daily, the discharge having changed gradually from a sero-sanguineous to a muco-purulent character. The tube was still retained for ten or twelve days, when the discharge became very trifling—though it did not cease altogether for several weeks after.

The heifer continued to do well; but as it was not deemed advisable to breed from her, she afterwards fatted as though nothing had occurred, except that at intervals she showed unusually strong procreative desires.

EMPROSTHOTONOS IN THE HORSE.

BY W. E. LITT, M.R.C.V.S., SHREWSBURY.

As I have never seen or heard of any case of Emprosthotonos in the horse being recorded, I am induced to send you particulars of such a case, which has recently occurred in my practice. Not only is there, to the best of my knowledge, no similar case recorded, but it is broadly stated, in those works which I have consulted, that that form of tetanic spasm which is confined to the inferior muscles is unknown in the horse or ox. This being the case, I am glad to be able to place on record in the pages of your *Journal*, the particulars of what must be considered an undoubted and well-marked instance of this pathological condition. The subject of this attack was a black gelding, six years old, about fifteen hands high, and rather more than three parts bred. He is the property of Captain Fenwick, R.N., by whom I was called in on October the 6th last. The appearances presented by the animal at this time were those of stiffness; the back being rigid, but straight, the abdominal muscles powerfully contracted, giving a "tucked up" appearance, a staring coat, and a peculiarly awkward gait. The action was very suggestive of Acute Laminitis, although there was an absence of pain. Indeed, it may be said there was but little constitutional disturbance. The pulse and breathing were perfectly normal; the appetite fairly good; the fæces were natural, but there appeared to be an almost continual desire to micturate. The secretion of urine was by no means suspended, as the quantity voided was of average amount, and was remarkable only in so far that it was peculiarly light-coloured and wanting in density. My first impression was, from the frequent micturition, and the peculiarity of gait before mentioned, that the horse

was suffering from some unusual affection of the bladder or kidneys; but a more careful examination and an analysis of the urine dispelled this idea.

I was informed by the owner that the horse had been in much the same condition for about three weeks; but was, he thought, getting worse. He attributed the horse's condition to muscular Rheumatism, and dated the attack from a night spent in a ruinous stable during some very rough weather in North Wales, he being then on a driving tour. At this time I was inclined to agree with the owner that the peculiarity in the horse's gait was due to Rheumatism, and directed that he should be kept quiet, warmly clothed, and supplied with light nourishing food—such as bran, malt, carrots, etc.,—at the same time prescribing a little saline medicine. For a few days no change of any kind took place; but in about a week's time I was informed, on my visit, that the horse had had an attack of *cramp* that morning. At this time he was looking as usual, but showed traces of having profusely sweated, and his pulse indicated recent excitement. Matters went on for about another week, the horse, as I was informed, having an occasional attack of cramp, more or less severe, and lasting from ten minutes to three-quarters of an hour. Unfortunately, although I visited the patient frequently and at all times, I was never able, up to this moment, to witness one of the paroxysms. The first change in the animal's appearance which struck me was about this period; and it was this peculiarity,—that he seemed to get very much more tucked up—*i.e.*, the abdominal muscles became more rigidly contracted, and the back was assuming a very decidedly convex appearance. The horse, too, seemed to hold his head lower than the natural position, and on attempting to force him to raise it, he seemed quite unable to do so. The inferior muscles of the neck and the chest were very hard, and in a state of evident tension. It was about this time, also, that on going into the stable one day I found the horse suffering from a powerful paroxysm. All four feet were close together, and the back was arched into a perfect bow. I could not have believed that it was capable of such an amount of flexion; the neck also was arched in a similar manner, the head being down between the fore-legs, and in this extraordinary

position, that the nose was pointing up to, and nearly touching, the ensiform cartilage, and the ears were pointing to the ground. From this position it was impossible to move him. The poor brute was evidently in great pain, sweating profusely and breathing very hurriedly. I tried friction—hand-rubbing the affected muscles—and various other plans to relieve the spasm, but without effect. However, in about an hour's time, gradually, and as it seemed of its own accord, the spasm relaxed, and the horse resumed his ordinary appearance. I now felt that the affection from which the horse was suffering could be no other than tetanic spasm of the inferior muscles of the body—in fact, Emprosthotonos. In this opinion I was confirmed by Mr. Charles Dargus, M.R.C.V.S., who saw the case in consultation with me. My treatment consisted in frequent doses of Ext. Belladonnæ in solution, and in the administration of dram doses of Nux Vomica twice daily. This, with careful dieting and strict attention to hygienic rules, had the desired effect. The paroxysms became less frequent and of a milder type. The muscles gradually resumed their normal status. The horse rapidly improved in condition, and he is now doing regular work, and showing not the least trace of that peculiarity of gait which made him, for the time being, so remarkable an object.

"LOODIANA FEVER."

BY STEPHEN KNOTT, M.R.C.V.S., ROYAL ARTILLERY.

(*Continued from page* 18.)

IN my paper for January relative to this disease, I ought to have mentioned that it generally remains in a place from which suffering horses have been taken. I remember one occasion on which horses were brought back by mistake, and picketed in the lines where the first symptoms of the disease had shown themselves, and although they had been away for a month or five weeks, three or four of them, shortly after their return, sickened, and had the Fever very badly ; they eventually recovered, however, owing to the mildness of the throat symptoms. Their lines

had not been disinfected, nor had the old earth been picked up and carted away—presumably showing that the contagium still remained in the old soil. Again, as to the effects of exposure. When on the march from St. Thomas' Mount to Secunderabad, we had one night in particular of very heavy rain, and on the following morning one horse was reported sick of the disease, and died. In another instance two horses suffered from it, caused doubtless by a chill whilst fording rivers in the early morning. These recovered, as they had the malady in a mild form, and the throat symptoms were not bad. I am now referring to the season of 1872 and early part of 1873, when we had suffered much from the epizoöty. Possibly these horses carried with them the germs of the disease from the station, although we had not had a case for some weeks prior to moving. When the battery we were relieving arrived at St. Thomas' Mount, their horses were attacked with the epizoöty also—even though, if I remember rightly, they were encamped out on a plain, and not marched into the cantonment direct. I have been informed from time to time that the Mount has been a locality for this disease ever since its origin; and when it does appear, it, as a rule, comes in a very malignant form. The battery I have alluded to was free of the disease before leaving Secunderabad.

Being rather anxious about the remainder of the battery horses when on the march, I had those that had suffered from Fever led some distance in the rear of the battery, which they were not allowed ever to approach. On arrival at the camping ground, a suitable spot was selected for them. I also took the same precautions with regard to the Commissariat beasts,—elephants, camels, sheep, etc., as well as for the bullocks which were employed for baggage purposes. Some few marches before entering Secunderabad, I wrote officially to the Officer Commanding R. A. at that station, informing him that the horses of the battery had suffered from Malignant Fever during the march; but that they were free of the disease at the present moment, and indeed had been so for some weeks. Mr. Byrne, who was V.S. to the Royal Artillery at the station, was sent to inspect the horses with me, with orders to report as to their health, before permission could be given for the battery to enter Secunderab

As my former patients had quite recovered, and all were found healthy, orders were issued to complete the march.

I omitted to mention in my paper for January, when speaking of the *post-mortem* appearances in the alimentary canal, that there were carbuncular eminences on the mucous membrane, and that when touched by the fingers, decomposed membrane slimed off and left the carbuncular appearance. The coats of the intestines also were thickened and infiltrated with the sero-gelatinous effusion.

Referring to the "Cyclopædia of the Practice of Medicine," by Dr. H. von Ziemssens, on chronic infectious diseases, I find that Bollinger on "Anthrax Fever" treats of this malady as being synonymous with "Loodiana Fever."

According to Bollinger, Anthrax may be characterized as follows :—

"Anthrax is an acute infectious disease. The infectious material consists of a vegetable parasite, which is produced in the diseased animal (endogenous), and perhaps also finds the conditions adapted to its development outside of the same—viz., in the soil (ectogenous); it being understood that the soil has been previously impregnated with these organisms or their germs. Anthrax is not contagious in the ordinary sense of the term, since an immediate contagion from animal to animal has hardly been proved. It is, however, in a high degree transmissible (mediate contagion), since the Anthrax poison may be preserved for a long time and transported by numerous mediate objects. The poison, which, although a fixed one, is also diffused through the air, most often enters the body through the lungs, but perhaps also it gets in with the food and drink. Anthrax is very easily communicable by inoculation to guinea-pigs, with more difficulty to dogs and poultry, somewhat more easily to cats.

"Among the wild animals ruminants are more often attacked, especially the roe, the stag, the reindeer, the buffalo; and the elephant is not spared.

"*Pathological Anatomy.*—The anatomical changes of Anthrax in the horse differ, especially from those found in cattle, in that the jelly-like yellow and sero-hæmorrhagic infiltrations are

encountered nearly everywhere in the body where there is loose connective tissue, chiefly in the retro-pharyngeal and laryngeal tissues, along the course of the great bloodvessels of the neck, in the mediastinum, peritoneum, and about the kidneys. The corresponding lymphatic glands, especially the mesenteric, show sero-hæmorrhagic infiltrations, are considerably enlarged, and here and there in a state of commencing gangrene. The intestinal lesions in the horse are for the most part not so diffusely spread; but still upon the mucous membrane, which is in a catarrhal state, œdematous, and sprinkled with ecchymoses, there are found well pronounced carbuncles, which are the seat of more or less superficial sloughs. The intestinal contents are likewise often bloody and thinly fluid.* The large glands, liver, and kidneys as a rule are swollen, the parenchyma cloudy, succulent, full of blood. In the blood, besides the presence of bacteria, the white corpuscles are found to be considerable in number. The red corpuscles for the most part are of lessened consistence, and manifest a tendency to cohere in little heaps. On microscopic examination of the carbuncles in the intestines, as well as elsewhere, and of the jelly-like hæmorrhagic effusion into the connective tissue, there are found in the capillaries, which are considerably dilated, besides a massing of white blood corpuscles (cellular œdema), numerous bacteria, and a finely granular mass, consisting partly of metamorphosed blood detritus and partly of bacterial germs. The thickness of the blood is due to its being deprived of water, by the dropsical, jelly-like, and œdematous effusions. The dark colour is caused by carbonic acid poisoning.

"*Prognosis.*—The prognosis of Anthrax is very unfavourable. As already stated, the mortality in cattle and horses reaches about 70 per cent. Anthrax is chiefly found on soils rich in decaying vegetable matter: on peat moors, in the

* I have recently been informed that the late Mr. Richardson, of the 16th Lancers, when in veterinary charge of the regiment during the outbreak of 1868, administered to an old healthy horse a pint and a half of fluid taken from a horse that had died of Loodiana Fever; he also inoculated it under the axillæ. Shortly afterwards the animal sickened and died. I quote this as told to me by the farrier-major of the regiment.

vicinity of dried-up watercourses and lakes, on freshly upturned soils, and especially where Intermittent Fever also flourishes (Anthrax district). An unusual amount of decaying vegetable matter in the soil, joined with an excess of moisture, appears to furnish the most favourable condition of life for the poison. Hence, as a matter of course, climate, geographical position, altitude above the sea, weather, and other influences, such as the nature of the fodder, the keep of the animals,—although they have severally been blamed as so many causes of Anthrax, are totally denied as such. On the other hand, the condition of air and earth and time are certainly of the greatest significance as auxiliary causes—as, for example, the amount of dew, the temperature of the air, the varying amount of moisture in the soil (ground water), the temperature of the soil, the movements of the lower atmospheric strata.

"The chief source, then, of Anthrax is contagion. This, however, is seldom direct; but is usually brought about through the instrumentality of mediate agents; the specific poison of Anthrax is transmissible in a high degree.

"Consequently Anthrax is not contagious like Small-pox. It approaches more nearly to Pyæmia and Septikæmia, and even, though only to a certain extent, to Cholera and Typhoid Fever.

"If we inquire what material is most frequently the carrier of the poison of Anthrax, the diseased and dead material, in all its parts, deserves the first mention. Most frequently the fluids of diseased animals are to be blamed, blood from blood-letting, blood which in the slaughtering, cutting up and burying of animals, adheres to everything it touches, and quickly dries up; then the hides, hair, bristles, hoofs, horns, bones, flesh, secretions, excretions, especially the excrement, are all of them feared as vehicles of contagion. Further, as carriers of the poison, must be mentioned healthy animals and men, who themselves, for some reason, do not become sick, perhaps on account of lack of aptitude for the malady. To this class belong flies, which are particularly dangerous as carriers of the poison. There must be mentioned further, as carriers of the contagion, the harness of animals, implements used in stables, straw, hay, all objects which come into contact with sick or diseased beasts (their

blood, mucus, etc.), and thus become soiled. Earth, especially when loaded with vegetable matter in decaying, is marked by the special facility with which it preserves the contagious material —perhaps also by a power of reproducing it, and that through a period of years. The propagation of Anthrax by means of food, particularly coarse fodder, is especially frequent. The greatest blame is bestowed upon such fodder as grows in places where the bodies of animals which have died of Anthrax have been buried; and many believe that, in these cases, the plants themselves act as bearers of the poison. There is, as yet, no proof of the truth of this assumption. In my opinion, in these cases, the earth adhering to the plants seems to act as the vehicle of the contagion,—earth which was contaminated at the time of burial of the animals; for the body itself very soon loses its specific virulence after it has been buried, as I have been able to prove experimentally. Moreover, when the fodder comes into contact with any infected matter, especially with blood which has been dried in the air, it is capable, under certain circumstances, of again producing Anthrax. Likewise drinking water may act as a source of infection by trickling through infected soil, or by direct contagion with diseased meat. Stable drainage seems to be less dangerous, since the poison is destroyed by decomposition. The customary medium of communication for Anthrax poison is, however, the air, whether the carriers of that poison (Anthrax bacteria) come out of the soil, or are derived from living animals.

"The digestive tract holds the second place. Here the poison enters the body with the food.

"How Anthrax bacteria or their germs get into the body, may be imagined without difficulty by recalling the common characteristics of these organisms: whether they originate from the soil or become dried up, as the remains of a case of Anthrax adhere to some object, sooner or later they get free by some mechanical influence, or by accidental contact become mixed with water. Small and light, they are wafted by the breeze, and either directly breathed in by the animal, or they fall upon the fluid or solid food, and with it enter the body. Such bacterial germs seem suspended in the air, may be washed down by rain,

conveyed to a distance, and deposited in any place whither chance may carry them. The penetration of Anthrax bacteria through the loose and thin mucous membranes of the animal body is easy to comprehend, in view of their minute size and of the fact that even hard substances (egg-shells) oppose no obstacles to the passage of analogous substances, as well as, finally, of this fact—that bacteria of decomposition, after death, penetrate immediately from the cavity of the intestine (and with great rapidity) into the organs of the body, and spread themselves in all directions.

"The tenacity of the Anthrax poison is exceedingly great. In the dried state the bacteria are able to preserve their virulence during months, and even many years.

"The different forms of Anthrax, as affecting the domesticated animals in a general way, may be more accurately arranged as follows: (1) Apoplectiform Anthrax (Anthrax acutissimus sine foudroyante), which only lasts from a few minutes to several hours. (2) Acute Anthrax (Anthrax acutus), lasting from a few hours to a few days. (3) Sub-acute forms of Anthrax (Anthrax sub-acutus). Here should be included all cases of Anthrax of a longer duration, especially the so-called Horse Typhus."

After what I have here quoted from Bollinger relative to the carriers of this poison, it proves to us, in making *post-mortems*, how careful we ought to be in not leaving behind any diseased material or fæcal matter from horses which have died of Loodiana Fever. Again, the horse-keepers and grass-cutters, who are told off to look after the sick and suffering from this disease, presumably ought to be kept solely for that purpose, and not allowed to go anywhere near the healthy horses of a battery or regiment; moreover, the litter and saddlery, harness, etc., are other objects to be mentioned. I am of opinion that the former should be burnt, and the latter well disinfected. The nidus of the disease seems, however, to be in the troop lines, where the soil is particularly adapted for the generation and preservation of bacteria. In India, the earth is generally of a percolating ferruginous material called "laterite," and urine and fæcal matter will drain through to several feet

below the surface, as proved when the picket-posts of horses that have died of the disease are withdrawn, to admit of the old earth being taken away and renewed by fresh. Possibly, it would be an advantage to have the decayed vegetation removed prior to the monsoon coming on, by horse-keepers told off for the purpose, and placed in a heap and burnt.

In conclusion, permit me to say that if abler pens than mine would kindly contribute their views on the subject of this disease, they would prove acceptable to all veterinarians who are fond of their profession,—and more particularly to the army veterinary surgeon, as it is a subject which concerns him most, in addition to its being of interest to our brethren in private practice.

Lastly, I may mention that there is another valuable animal which is often lost in India—viz., the elephant; for very little is known as to its diseases. I am of opinion that the obscure malady of which it dies, at times, may be attributed to this affection, as well as the mortality among the other classes of animals used in our Commissariat branch in the East.

(*To be continued.*)

HYDROCEPHALUS PRODUCING CEREBRAL ABERRATION.

BY HENRY BATH, F.R.C.V.S., ROYAL ARTILLERY.

I BEG to submit the following case, which, from its very unusual character, I think may be interesting :—

My attention was directed to a bay mare, nine years old, belonging to the A Battery, 16th Brigade, Royal Artillery, which had been excused from duty owing to the peculiarities she evinced. The animal was not violent, but would sometimes strike herself unconsciously; she would stand for several hours in a listless state, with her fore-legs bent and head very low; she resisted any attempt to move her when in this position, and generally kept some hay in her mouth without masticating it. There was also partial paralysis of the extremities, which was shown on progression. On raising the head, she groaned very

much from the pain which the movement produced. The animal was carefully examined, but there was no wound, or appearance of any external violence having been used. She was kept twelve days under observation, and during that time her feeding was irregular; she would sometimes eat voraciously, but occasionally she abstained a whole day from food, and was always in a standing posture. I considered that the patient was suffering from continued pressure on the brain, and that it was quite a hopeless case. The animal was therefore, on my recommendation, destroyed. On a *post-mortem* examination, I found a quantity of fluid effused within the cranium and lateral ventricles; the *plexus choroides* was larger and more developed than is usually observed, and there were traces of inflammation in the meninges of the brain.

The above morbid appearances will be sufficient to account for the symptoms shown in this case. I may mention that the animal's health had been previously good, but the mare was of an excitable temperament, and known as an inveterate kicker. This may have been a predisposing cause, but not sufficient to produce the disease, which I consider is the most important part to be known.

CONGENITAL HERNIA OF THE LIVER.

BY J. KIRK, VETERINARY STUDENT, "DICK'S" COLLEGE, EDINBURGH.

I HAPPENED to be residing with a friend, who is an extensive butcher near the town of Hawick, Scotland, and accompanied him one day to see some cattle he was about to purchase for slaughter. About a dozen were bought in the capacious mart of Messrs. Oliver and Sons, Hawick—as fine a lot of animals as could be seen in any market in the kingdom. They were carefully driven home—a distance of six miles—housed and fed. Early next morning I went to look at them, but ten had been already killed; the remaining two stood in a corner, one of them—a two-year-old Highland "kyloe," and very small—was a perfect picture, and would have served as a study for Landseer or Herring.

It, too, was soon killed; and having nothing else to do, I began to examine the organs which had been removed from the other animals, when the man who was dressing the carcase of the one just slaughtered drew my attention to its diaphragm. In this I found an aperture nearly the size of the mouth of a common drinking tumbler, and through this opening passed a portion of the upper part of the right lobe of the liver, and adhered to the superior and posterior portion of the right lung. All the other organs were perfectly normal, and there were no indications of an abscess in or surrounding the diaphragmatic opening. The man remarked that he had been killing cattle for twenty-four years, but never saw the like of this. I had the portion removed, and brought it under the notice of Professor McKendrick, our late teacher of physiology, and now of the University of Glasgow. He pronounced it a good case of congenital Hernia of the liver. Principal Walley thinks it a case of adhesion of the liver to the lung. I am inclined to lean to the opinion of Professor McKendrick, as he is rich in specimens of a pathological kind.

ON THE THERAPEUTIC VALUE OF ACONITE IN VETERINARY PRACTICE.

BY JOHN DOWLING ALLMAN, CREECHURCH LANE, LONDON.

THE great importance of Aconite in veterinary practice is not so widely known as it ought to be; in fact, I am acquainted with many members of the veterinary profession who never use it, and tell me plainly that they know nothing about its therapeutic value. But then, some other of my personal friends use it frequently, and they are beginning to appreciate the intrinsic merit of it. Perhaps there are few drugs more valuable or important in veterinary practice than aconite; and I feel certain that the time is fast approaching when it will be used as often, and appreciated as much, as it now is in medical practice. I have carefully watched the therapeutic value of aconite for some years, and have numerous notes of the very great and signal service it has rendered in many aggravated diseases. In

all maladies of an inflammatory nature, aconite can be administered with marked and, I might say, almost instantaneous effect; as it will control the inflammation and subdue the accompanying fever. I do not mean to assert that it will remove the products of inflammation; but by *controlling* the inflammation it prevents their formation, and will save the tissues from further injury. Consequently, in the early stages of an attack, this most important drug is conspicuously serviceable.

In Pneumonia, in which there is always a high temperature, the effects of aconite are also marvellous. It is likewise of equal service in Influenza and colds, accompanied with much chilliness. It will also ease the pain of Colic when other remedies have failed. The mode of employing the drug has a great deal to do with its success. I have heard some people speak of it disparagingly, simply because they have not been acquainted with the scientific rules to be observed as to the mode of its administration and dose; thereby bringing discredit on the drug. It should always be given at the very commencement of the disease; its exhibition should never be delayed, as every hour is of importance. Small doses given every hour, or every half-hour, have a more decided action than larger doses given less frequently. I consider it of the utmost importance to point out here the great advantage gained by the use of the clinical thermometer, as an aid in the diagnosis of a case where there are suspicious symptoms of inflammation or of febrile mischief; and for the benefit of your readers, I would mention that the most reliable thermometer is that made by Messrs. Arnold and Sons, West Smithfield.

Indeed, in the treatment of inflammation and all febrile symptoms, the clinical thermometer is of the utmost importance. If the symptoms and physical signs are not sufficiently developed to decide whether an acute inflammation of some deep-seated part has set in or not, the thermometer will decide the point. No inflammation or fever can exist without a high and unnatural heat of the body; hence, if in a doubtful case the temperature is found natural, the case is not one for aconite; but, on the other hand, if the temperature, after a careful investigation, is found high, it will be a case for the immediate administra-

tion of this drug. In the treatment of simple inflammation and acute specific diseases, aconite may be appropriately given in combination with any other remedy the practitioner may deem of service. Aconite has been also found of essential benefit in acute attacks of Rheumatism in the horse; and there can be no doubt of its efficiency, as it is proved by some eminent authorities. I believe one important feature in aconite is its action over the heart. Dr. Fothergill has demonstrated by some careful experiments that aconite paralyses the heart of frogs, arresting the contractions in the diastole. The effects on respiration are very similar. Moderate doses render the breathing slower, but a larger and poisonous dose makes it short and hurried.

CONGENITAL DERMOID OR HAIRY TUMOUR ON A DOG'S EYE.

BY W. A. TAYLOR, M.R.C.V.S., MANCHESTER.

TUMOURS of this class, as remarked by Mr. Robertson in the March number of the *Journal*, are of rare occurrence in domesticated animals; or, presuming their more frequent existence, they have failed to be noticed or recorded by veterinary surgeons.

The subject of the above-named tumour is a high-bred fox-terrier puppy, fourteen weeks old.

My attention was recently directed to the dog's eye by my brother, whose property the puppy is. He had noticed the existence of the tumour soon after the usual nine days' blindness of puppy life.

An examination of the eye (in this instance the left) reveals to the beholder what at first appears to be "something white" in the dog's eye. On a more careful inspection, the white object is discovered to be a fixed tumour, circular in outline, of a pinky-white tint, and having a diameter of three-sixteenths of an inch: it is slightly raised above the level of the eye, and from it grow some white hairs—in number about fifteen—resembling those of the eyelashes. Two-thirds of the tumour are attached to the sclerotic coat, the remaining third to the cornea; and it receives a covering of conjunctiva.

In appearance and structure this *Lusus naturæ* bears a close resemblance to the mole on the human skin.

The presence of the tumour does not apparently cause any inconvenience to the puppy, beyond a slight increase in the flow of the lachrymal fluid.

This case closely resembles that described by Mr. Robertson; indeed, the only difference, excepting size, is the colour of the tumour, and this is easily accounted for by the absence of pigmentous colouring matter in the sclerotica of the dog's eye.

Are these hairy tumours hereditary? If so, it would be unadvisable to breed from animals possessing them. The eyes of both parents of the puppy above alluded to are perfectly normal.

[In the next number of the *Journal* we shall publish an interesting sketch of an Ocular Dermatoma, forwarded by Professor Walley.]

OVARIOTOMY, AND THE CASTRATION OF CRYPTORCHID HORSES.

It will be seen from our advertisement sheet that Mr. T. C. Miles, of Illinois, intends to visit this country in summer in order to demonstrate his method of performing ovariotomy on cows—and if need be, on mares; and also his procedure for emasculating cryptorchid animals, or "rigs," as they are usually termed.

Ovariotomy, or "spaying," though much practised on the Continent, and still more extensively in America, on cows, is seldom or never performed in this country; and perhaps we are correct in asserting the same with regard to cryptorchids. The advantages of the first-named operation in the cow we will refer to in our next issue; the benefits to be derived from it in several conditions in the mare are obvious; while there can be no doubt whatever as to the utility of a method of castrating horses which have one or both testicles retained either in the inguinal canal or the abdomen. We have made every inquiry in this country, and cannot discover that the latter operation is ever practised. Mr. Miles, as a renowned operator, appears to have been most successful; for we learn that in 1874 he castrated 214 "ridglings," and only five died. During five years, in ten States, he castrated 1100 cryptorchids, and spayed over 2000 head of cattle and some mares. The écraseur is the instrument employed to excise the testicle; and he recommends working the horse every day after the operation, no matter what the weather may be, as recovery is more rapid. We fear that his proffered recompense if we can show him a better, safer, or more expeditious method, is not likely to be claimed. The immense herds of cattle and droves of horses in some parts of America offer this kind of specialist advantages which no one in this country can avail himself of.

Mr. Miles' wonderful dexterity and success is certified to by some very competent authorities in America, and we hope he may obtain plenty of subjects in this country upon which to demonstrate his valuable skill.

Editorial.

THE ÆTIOLOGY OF SPLENIC FEVER.

For a number of years the study of anthracoid diseases has been most carefully and sedulously pursued by a number of investigators, and every year appears to add to the list, until the writings already accumulated on the subject are very numerous. These pertain to the nature, causes, symptoms, and pathological anatomy of the malady, but most of all, perhaps, to its ætiology. Since the discovery by Delafond and Gruby—now a long time since—of the peculiar staff-shaped bodies they designated *bâtonnets*, which they believed to be a product or accompaniment of putrefaction, and consequently that Anthrax was nothing but a putrefaction of the blood, the attention of investigators has been chiefly directed to these minute organisms, to which Davaine in 1863 gave the name of *Bacteridæ*. Davaine, however, established the fact that the *Bacteridæ* of Anthrax differ essentially from those which appear during putrefaction, and especially by their length and absence of movement. For many years this authority continued making experiments, which appeared to demonstrate in the most unequivocal manner that this *Bacteridiasm* is the essential condition of Charbon or Anthrax. Others, however, did not always arrive at identical results; for while some only discovered these bodies after animals had succumbed to the malady, or immediately before that event, there were a few who could not find any trace of them in Anthrax blood, which was, nevertheless, sufficiently potent to produce the disease by inoculation.

Consequently, the theory promulgated by Davaine, and which he had apparently confirmed by experiment, has proved a fertile source of discussion among certain *savants;* and there does not yet seem to be established a complete agreement as to whether or not the particles are the active agent in the production of this serious affection.

Cohn, who has made a very close and interesting study of microphytes in general, classifies the Bacteridæ, and places them in the genus *Bacillus*, distinguishing those of Anthrax as the *Bacillus anthracis*.

In a recent publication devoted to this important matter (*Beiträge zur Biologie der Pflanzen*, Breslau, 1876), Cohn contributes an elaborate article on the "Biology of Bacillus"; and there is also a paper by Koch, on the "Ætiology of Splenic Fever" (*Die Ætiologie der Milzbrand-Krankheit, begründet auf die Entwickelungsgeschichte des Bacillus anthracis*). Though Cohn's contribution is worthy of his reputation as a high authority in this line of research, yet it does not possess the same practical interest or importance for the veterinarian as Koch's article, to which we will now refer. The latter treats of the origin of Splenic Fever, and more immediately in relation to the nature, development, and multiplication of the Anthrax microphyte; and its object is to establish the part the latter plays in the production of the disease. The scientific and practical value of his researches is very great, if they are found to bear the test of further experience and observation; and this

being so, we have no hesitation in laying the result before the readers of the *Veterinary Journal*, many of whom have to contend with this destructive malady in its different forms.

As we have said, Koch's article on the origin of Splenic Fever is based on the history of the development of *Bacillus anthracis;* and in the introduction it is stated how he was brought to the study of this question by the discussions which arose on the results obtained by Davaine. Then we are told that Bacilli multiply with enormous rapidity in the blood and humours of living animals, by increasing in length and dividing transversely. The *Bacillus anthracis* becomes elongated to double its usual length, while at the middle it is gradually constricted, and there it separates into two young Bacilli which quickly comport themselves in a similar manner. Whatever be the species of animal inoculated with Anthrax blood, and no matter how many successive inoculations may be made, the Bacilli multiply solely by scission, *but only so long as the creature is alive.* When it is dead, this is not so. If a drop of its blood is then placed in serum or aqueous humour, and kept at a constant temperature of 35° to 37° (Cent.), the Bacilli are observed to lengthen considerably—ten, twenty, or even one hundred times their usual size—to grow crooked, and to become interlaced in an inextricable manner. They lose their uniform structure and transparency; their contents become finely granulated, and soon there appear in their interior closely-packed refractive granules. These long filaments ultimately become dissociated, and in their place appear lines of granules which seem to be connected in some way; but they are soon liberated, and then form veritable spores, identical with those of the other Bacteria observed and described by Cohn.

As convenient animals for injection or inoculation in his experiments, Koch uses mice. A small incision is made at the root of the tail, and as small a drop as possible of the fluid containing the *Bacilli* is injected. To discover whether these organisms did not after a time pass into another form, and that he might also be provided with fresh material, Koch injected a number of mice—once as many as twenty—one after the other: each succeeding mouse from the one preceding it. The results were always the same: the spleen was enormously swollen, and filled with a large number of crystalline-looking rods of varying size, never exhibiting movement or spore formation; they increased in number solely by division.

The number of Bacilli found in the blood varied with the animal injected; in the guinea-pig it was enormous, sometimes even exceeding that of the blood corpuscles; in the rabbit much smaller, so that sometimes several drops had to be examined before any were found; in the mouse it was often *nil.*

The next statement is: in the blood of dead animals, or in other suitable fluids, the Bacilli grow to very long, straight, leptothrix-like filaments—within certain limits of temperature and with the presence of air; while the formation of numerous spores goes on at the same time. The truth of this statement can be tested very easily by dropping

a minute portion of a spleen thus affected, into some perfectly fresh serum or *Humor aqueus* of a cow.

The means which Koch employed for preventing evaporation is described in his paper. After a specimen has been kept for fifteen or twenty hours at a temperature of 35° to 37,° it may be examined. Then the centre will be found almost unchanged, and presenting the appearance represented in the accompanying woodcut (fig. 7). As the centre

FIG. 7.

Bacilli anthracis from the blood of a guinea-pig: showing crystalline rods (*b*), some beginning to divide transversely or become bent; and blood-corpuscles—*a* white. × 650.

is left, elongated and bent forms are met with, till, towards the edge of the glass cover, fibres are formed more than a hundred times the length of the rods in the middle of the glass. Of these last, many will be found to have lost their crystalline appearance and homogeneous structure, their contents being finely granulated, and small highly-refractive granules being set at regular distances from one another. Quite at the edge the fibres contain perfectly-formed spores, of an oval shape and highly refractive, resembling a string of pearls.

After much exercise of patience and ingenuity, Koch was at last able to watch the process of spore formation under the microscope. The phenomena thus observed were similar to those indicated by the different stages of development which have been just detailed.

The spores of *Bacillus anthracis*, under certain conditions of temperature, nutrition, and presence of air, develop immediately into the Bacilli which were seen in the blood.

The impression that this really occurs, and that the spores are not merely broken-down products of the bacillar fibres, is supported on *à priori* grounds by the natural history of *Fungi* and *Algæ*, and was confirmed by the injection of spores alone into the blood. Placed in a

drop of aqueous humour, each spore was seen to assume an oval shape, and to become imbedded in a circular mass which surrounded it. This at first loses its circular form, and becomes elongated in the direction of the long axis of the spore, so as to take an elongated ovoid outline, the spore remaining at one pole. As the envelope increases in length, the spore becomes smaller and paler, breaks up into several parts, and finally disappears altogether, as the accompanying woodcut (fig. 8)

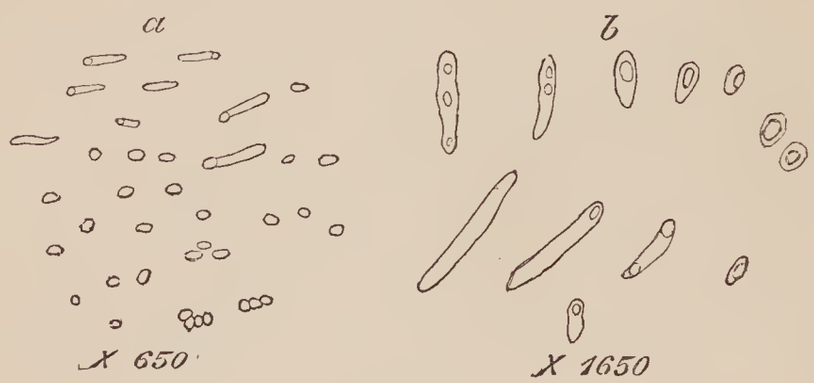


FIG. 8.

Growth of the spores. The spore is elongated into a cylindrical corpuscle; the highly refractive mass remaining at one pole becomes smaller, breaks up, and finally disappears.

shows.* Figure *a* was drawn by Koch, *b* by Cohn. Koch has been successful in obtaining a second generation of spore-forming fibres; and he draws attention to the fact that these observations have not been made once, but repeatedly, and that he has had the benefit of Cohn's examination of his specimens. The negative results which Harz appears to have arrived at (see *Veterinary Journal* for February, p. 118), have no value in the presence of his, which are positive.

To know whether the presence of *Bacillus anthracis* fully explains the occurrence of Splenic Fever, it is necessary to have some further information about its life-history, and the conditions under which it survives the victim of the malady,—and of whose death it has been the cause,—in order to spread its morbific influence still further.

(*To be continued.*)

THE CATTLE PLAGUE.

IT will be seen, from the proceedings of the Royal Agricultural Society and the Parliamentary Intelligence, that the Cattle Plague, about which so little was thought when it first appeared, more than three months ago, has proved a serious scourge indeed,—not so much from the actual destruction of cattle, but from the embarrassment and alarm it has occasioned throughout the country. Nothing could better indicate the lamentable state of affairs with regard to our management—or rather mismanagement—of the contagious

* We are indebted for these cuts to the Editor of the *Quarterly Journal of Microscopical Science*, in which a summary of Koch's researches appears.

diseases of animals, than this outbreak in and around London. From the moment when it was allowed openly to invade the country, up to its last appearance as we go to press, there appears to have been supineness, and an absence of ordinary care and forethought, that does us no credit as a business or provident people. For years we have pointed out the grave defects of the present system—a system which could not be tolerated in any other civilized land, but which has its apologists, strange to say, in the ranks of the veterinary profession in this country. A thorough reform is needed, and until this is accomplished the English people must suffer, as they have done for the last forty years, from the effects of destructive contagious diseases of animals. Experience does not teach us much in this direction.

In the meantime, a Parliamentary Committee is investigating the causes of the recent outbreak, the measures adopted for its suppression, the effect of the importation of foreign animals with regard to the introduction of disease, and how far such importation is necessary. All this information, we would have thought, was already at hand, and did not require eliciting when energetic action is needed. Had a committee been appointed to inquire into the working of the present organization, or rather disorganization, of the position of veterinary science in the country, and its relation to the suppression of the scourges which cannot now be controlled, and of which the Cattle Plague is only one, as well as to devise a scheme by which an efficient system of sanitary police might be instituted, we should then have some hope of good resulting from the punishment our remissness and stupidity have been inflicting upon us for some months. Truly, we are a strange people!

England, fairly warned of the probability of an invasion of the disease, allows it to be introduced at two specially protected ports, and to escape inland from them. Germany, suddenly invaded at a number of points wide apart, and without any warning whatever, in a brief period stamps out the scourge. In Germany veterinary sanitary science is understood by the Government and people, in England it is not: therefore the success of the one and the non-success of the other. Our obtuseness as a nation is not creditable, and it cannot be denied that the veterinary profession is not altogether blameless in the matter. We are still too much under the sway of obsolete notions of our duties, and have not been able to appreciate what our science demands at our hands.

The outbreak at Hull has, it seems, been checked, and the last report gives the following summary of the disease there:—Outbreaks, 6; number of animals on premises, 60; died, 2; healthy animals slaughtered at owners' risk, 22; diseased animals slaughtered at Corporation's risk, 16; healthy ditto, 20; value of discased animals slaughtered at Corporation's risk, £453; ditto healthy, £355 10*s.*; compensation paid by Corporation for diseased animals slaughtered, £266 10*s.*; ditto for healthy ditto, £266 12*s.* 6*d.*; amount received for sale of carcases of healthy animals slaughtered, £200.

Its maintenance and spread in and around London appear to have been due, in the first instance, to allowing the landing of plague-stricken animals at Deptford, and permitting the infected ship to move to a wharf higher up the Thames, without any precautions being adopted. Subsequently the contagion appears to have been chiefly propagated by mediate influence—at least, this is the inference; though the preventive and suppressive measures have been carried out with such laxity and tardiness, that it might well have been conveyed directly in some instances.

There is nothing novel, it would seem, in the course or symptomatology of the disease. As in other outbreaks, the pathological alterations have varied somewhat, but otherwise its more salient characteristics have been well marked.

On April 16th, the Veterinary Department of the Privy Council, which has appeared to occupy an indefinite position with regard to these maladies, and has shared to some extent with local authorities in the task of suppressing them, assumed the sole control of affairs in and around London, and an Order in Council was issued with regard to the observance of certain precautions.

When or how the scourge may be suppressed is a question no one would venture to answer confidently, after what has already occurred. It will indeed be fortunate if it does not make itself felt widely; for we are told that it existed for eight days in a cattle-shed at Willesden, before any steps were taken to extinguish it! This reminds us of the commencement of the outbreak in 1865, when the disease could not be diagnosed for some time. It is not a little remarkable that the fact that sheep may not only become transmitters of the contagium, but be themselves victims of the disease, has been either overlooked or ignored; as they and other animals, such as pigs, have been allowed to move about in infected localities!

We may observe that our surmise as to the origin of the outbreak of the disease in Germany has proved to be correct. The mobilisation of the Russian army in Bessarabia is to be credited with the development of the pest. The value of a knowledge of the history of this and other contagious diseases, especially with a view to their prevention, though it may not be obvious to some people who are slow to learn, is nevertheless real and important. We shall have something to say on the subject next month.

VETERINARY HONOURS.

We learn that the very distinguished veterinarian and director of the Lyons Veterinary School, Professor Chauveau, is about to "sustain" a thesis before the Paris Faculty of Medicine, in order to obtain the degree of Doctor. According to the law, this degree is necessary before he can occupy the chair of Comparative Pathology reserved for him in the Faculty about to be instituted in Lyons. A special and altogether exceptional Ministerial decision was given in his favour, by which the severe tests for the doctorate were reduced to merely the writing and defending of a thesis. This, it appears, is a most unusual distinction; and it is so rare, that in the memory of the present generation it has only occurred once—when Dumas, the illustrious Secretary of the Académie des Sciences, had the degree conferred upon him in the same manner. Of course this test is a mere formality, as the Faculty had decided, from the splendid work already achieved by Chauveau, that he well merited the honour of this exceptional election. Chauveau, though occupying a chair at the Faculty of Lyons, and possessed of the degree of doctor, will still, we are happy to know, continue in the ranks of the veterinary profession, whose reputation he has so much enhanced, and whose welfare he has so greatly promoted in France.

It will be remembered that, in an early number of this *Journal*, we urged the necessity for founding a chair of Comparative Pathology in Britain. Are we to be the last country in Europe to adopt this most important step? or is the delay owing to the fact that we could not find any one like Chauveau to fill such a chair? Within the last few years our colleagues in France have indeed made grand progress. We earnestly hope and expect that it will continue. Human and comparative pathology are now closely allied on the other side of the Channel.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD APRIL 11TH, 1877.

Present—Col. Sir Frederick Fitzwygram, Bart., President, in the chair; Professor Simonds; Messrs. Balls, Batt, Cartwright, Collins, Dray, Duguid, Fleming, Gowing, Greaves, Harpley, Moon, Moore, Naylor, Pritchard, Withers, Woodger, and the Secretary.

The Secretary read the minutes of the two preceding special meetings, which were confirmed.

The Secretary announced that a letter had been received from Mr. Williams expressing his regret at his inability to be present at the meeting of the Council.

In the name of Mr. Fleming the Secretary presented the Council with parts 7 and 8 of "Veterinary Obstetrics."

A vote of thanks to Mr. Fleming was proposed by Mr. Dray and seconded by Mr. Naylor, and agreed to.

The Secretary also presented to the Museum, in the name of Mr. Fleming, a tumour taken from the brain of a horse, and also another tumour taken from a horse by Mr. Moon.

Mr. Dray proposed, and Mr. Cartwright seconded a vote of thanks to Mr. Fleming and Mr. Moon, and the motion was agreed to.

The Secretary announced that the following letters had been received:—

(1.) From Dr. Dunsmure, acknowledging the receipt of copies of the Education Scheme and amended Bye-laws.

(2.) From Professor Walley, acknowledging the receipt of the report of the Committee on the removal of Pharmacy in the Education Scheme, and copies of the amended Bye-laws.

(3.) From Mr. William Brown, Grafton Street, Fitzroy Square, stating that his diploma had been destroyed by fire in July, 1870, and asking that he might have a new one sent him with the College seal attached.

Mr. GOWING said that he could verify the statement in the letter, and the Secretary was directed to send Mr. Brown the usual form of certificate.

(4.) From Dr. Dunsmure, stating that the examinations in Scotland would commence on April 16th, and that from the Clyde Street School eight students would present themselves for the minor examination and twelve for the major examination; from the New Veterinary College sixteen for the minor and seventeen for the major examinations; from the Glasgow College six for the minor and twenty-three for the major examinations.

The Secretary read the report of the Court of Examiners in London on the recent Pass Examinations held on the 3rd, 4th, 5th, 6th, and 7th of April. Thirty candidates from the Royal Veterinary College had passed their examination, and obtained the diploma of the Royal College of Veterinary Surgeons, and fourteen had been rejected.

Professor SIMONDS said that among the gentlemen who had been rejected there were three who had been marked "Good" upon all practical subjects, and two of them had been marked "Bad" in physiology and one in pathology. It had been the custom in days gone by for the Court of Examiners sometimes to re-consider the decision at which they had arrived, and to give some gentlemen an opportunity of further examination in the subjects they had failed in. It seemed that this question was to some extent mooted

at one of the meetings of the Court of Examiners, and Mr. Robertson stated that in Scotland, if the Court decided it was a fair case for re-examination, the students were re-examined. He could quite understand a man going up to his physiology examination, and not feeling that confidence in himself which he would have at the other tables, or after being under examination for some time he might get fatigued and not answer so well as he otherwise would. He therefore asked the Council to consider whether these three gentlemen, having been good on all practical subjects—subjects in which the public were chiefly interested—might not be allowed to go up at the July examination to be examined upon the subjects that they had failed in. He, however, left the matter entirely in the hands of the Council, having no wish whatever to dictate to them.

Mr. FLEMING, as one of the examiners, said that the student who was rejected as bad at his table was really not good; and he contended that if a student showed that he was not a scientific man when he was leaving College, he was not likely to become so afterwards. Every student should show a fair amount of scientific knowledge when he came up for his diploma. No one could be a good practitioner unless he was a good physiologist, and the students who were rejected at the physiology table, on the occasion referred to by Professor Simonds, were certainly very much below the ordinary level. The examination was very far indeed from being severe, but he himself was quite willing to re-examine the students who had been rejected at his table if the Council thought fit.

Professor SIMONDS said he made no complaint of the examiners, as he considered the examination very fair.

Mr. GREAVES said that if the Council acceded to the wish of Professor Simonds, a feeling of jealousy might be aroused in other students who had been rejected; but he thought the Court of Examiners might be allowed discretionary power to re-examine students who had obtained four "Goods" in practical subjects.

Mr. GOWING thought that the decision of the Examiners, who were men of eminence, must be regarded as final, and the Council should not interfere in the matter.

Mr. HARPLEY said that he understood Mr. Robertson as stating that in Scotland a student was allowed a second examination, provided the examiners *themselves* raised a doubt with regard to the justice of their decision. In this case the doubt was not raised by the Court of Examiners, but by Professor Simonds.

Professor SIMONDS said it was not raised by him, for Mr. Robertson brought the matter forward the first night.

The PRESIDENT said it seemed to him perfectly obvious that a student who was bad in any one point was not fit to be licensed as a member of the profession; but where a student was good in four or five subjects a medium course might be adopted, and he might be allowed to come up at the next examination to be re-examined on the subject in which he had failed, and without further fee.

Mr. COLLINS proposed that no change should be made in the present rules.

Mr. FLEMING seconded the proposal.

Mr. GREAVES said he would be glad to second the President's suggestion, if it was worded so as to give the examiners a discretionary power to have the students brought before them at the end of three months to be examined on the one bad point, provided they had previously had four "Goods."

Mr. COLLINS' proposal was put to the vote and carried.

The SECRETARY announced the result of the "First Examination," held on the 9th and 10th of April: twelve students passed and three were rejected.

A letter was read from Mr. Thomas Walley, of the Veterinary College,

Edinburgh, asking if a student of the Toronto School, after studying one session, might be allowed to go up in July under the old rules.

The Council decided that the examination must be under the new rules.

A letter was read from the Secretary of the Royal Veterinary College, dated March 29th, complaining of the alterations in the fees for rejected students.

The reply to that letter was also read:—

"Royal College of Veterinary Surgeons,
"10, Red Lion Square, W.C.,
"*7th April*, 1877.

"SIR,—In reply to your letter in regard to the fee of £3 3*s.* now charged on re-examination, I am desired to say that the case was fully considered at the Council meeting R.C.V.S., in January last, on a motion made by Principal Simonds in reference thereto. You will find a fairly full report in the February number of the *Veterinarian*, in which the arguments on both sides of the case are stated.

"The alteration which was made in the Bye-law in October, 1876, was a matter of necessity, as the fees previously charged have of late years, in consequence of the very numerous rejections, failed to pay the expenses of the examinations.

"The Examiners have to be paid, whether the students pass or not. The re-examination of rejected students costs as much as the original examinations. On Tuesday last, for instance, four students were rejected out of nine.

"The Council have no desire to make the fees higher than necessary; but do not feel called upon to examine students at a loss.

(*signed*) "W. H. COATES, *Secretary.*

"To the Secretary of the Royal Veterinary College,
"Camden Town, N.W."

A letter was received from Dr. Dunsmure asking when the new Bye-laws would come into force, and stating that he took it for granted that the forthcoming examinations would be conducted as formerly, with the single exception that all rejected students would have to pay a fee of three guineas.

Professor SIMONDS said that some students of the Royal Veterinary College, at the last examination, had had to pay a fee of three guineas, although they had not been rejected twice. He did not think that the bye-law was intended to have an *ex post facto* force, and he thought that the schools in Scotland had been treated more favourably in that matter than the London School.

Mr. HARPLEY considered that the Council had power to alter their Bye-laws whenever they wished, and a student on entering a school could not expect that the Council would pledge themselves to make no alterations until after he had obtained his diploma.

The REGISTRAR read the obituary notice.

Professor SIMONDS said he had received a letter stating that Mr. Joseph Beeson, of Amersham, who had been registered as dead, was still alive.

The SECRETARY said that his informant was Mr. William Wilson, of Berkhampstead. The correction would be attended to.

The report of the Registration Committee was read and adopted.

The SECRETARY read the report of the judges selected by the Council to act with the Farriers' Company, in deciding as to the merits of the essays on Horseshoeing. It stated that only two essays were sent in, and neither was deemed worthy of the prize.

Mr. FLEMING said that the judges appointed by the Farriers' Company were rather disappointed at the result of their offer; but the judges selected by the Council had assured them that the Royal College of Veterinary Surgeons would assist them next year, if they decided to repeat their offer.

The SECRETARY read a letter from Mr. Hedly, of Darlington, dated February 20th, stating that owing to absence from home he had not previously replied to the offer of the Council to grant him a fellowship, but he was now quite agreeable to accept the honour with the conditions annexed.

A letter was read from Mr. Dewar, of Midmar, Aberdeenshire, to a similar effect.

A letter was read from Mr. F. F. Collins, of Simla, Bengal, stating that he would accept the fellowship, if elected, and instruct his agents to pay the fee.

After some discussion,

The PRESIDENT moved that the Secretary be instructed to write to Mr. Hedley and Mr. Dewar, stating that the Council very much regret that they had allowed the opportunity to pass, but it was now too late to rectify the mistake.

Mr. GOWING seconded the motion, which was carried.

The report of the Fellowship Examination Committee was read.

Mr. GOWING thanked the Council for the honour they had done him in electing him a Fellow. He thought that the establishment of fellowships would bring better men into the profession, and raise the profession in public opinion.

The report was adopted.

After some discussion, it was decided on the motion of Mr. COLLINS, seconded by Mr. WITHERS, that the report should be printed in the Register, with the exception of the first clause, which was regarded more in the light of private instructions to the examiners.

The report of the College Fund Committee was read, and showed that the balance at the bankers' at the present time was £92 8*s.* 4*d.*

On the motion of Mr. NAYLOR the report was received and adopted.

The Finance Committee's report and the Treasurer's balance-sheet were read, and showed that the balance in hand at the present time was £627 4*s.* 10*d.*

The report was received and adopted, and on the suggestion of Mr. WITHERS it was decided to invest £300 of the balance.

Cheques were ordered to be drawn for the current expenses.

The Council then took into consideration the amount of work which the Secretary had to perform, the Secretary being requested to withdraw during the discussion.

The Council decided to give the Secretary £10, in order to enable him to get temporary assistance, and appointed a committee consisting of Messrs. Collins, Harpley and Withers to inquire into the whole of the question.

On the Secretary's return, the President informed him of the decision of the Council.

On the application of the Secretary a cheque was ordered to be drawn for £7 for postage stamps for the issue of voting papers, circulars, etc.

The Council then decided on the form in which the voting papers should be drawn up.

Mr. Dray, Mr. Duguid and the Secretary were appointed a committee to draw up the annual report.

Mr. NAYLOR proposed and Mr. MOORE seconded the election of Mr. H. Withers as auditor.

Agreed to.

Mr. DRAY proposed and Mr. MOORE seconded the election of Mr. Alfred Broad as auditor.

Agreed to.

Mr. Moon and Mr. Dray were appointed a committee to make arrangements for the annual dinner.

Professor SIMONDS gave notice of his intention at the next quarterly meeting to move certain alterations in the Bye-laws. He handed in his proposed alterations, that they might be duly suspended for three months.

The proceedings then terminated.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

A MEETING of the above Association was held at the Bell Hotel, Leicester, on Tuesday, the 6th of March, the President, Mr. A. B. Proctor, of Coventry, presiding.

There were also present Messrs. Blakeway, Stourbridge; Over, Rugby; E. Bailey, sen., E. Bailey, jun., F. Bailey, and Hobson, Leicester; Goule, Malvern; Perrins, Worcester; Hodgkinson, Uttoxeter; Collett, West Bromwich; H. M. Stanley, Birmingham; Rossell, Sandiacre; Blunt, Lutterworth; Pyatt, Nottingham; Heap, Melton Mowbray; Wiggins, Market Harboro'; Greaves, Manchester; and the Secretary.

The minutes of the previous meeting having been read, Mr. WIGGINS proposed and Mr. OVER seconded that they be confirmed. Carried.

Mr. BLAKEWAY then gave the Treasurer's report, and read several letters received from different members respecting the payment of subscriptions, etc. After some discussion, Mr. WIGGINS proposed and Mr. ROSSELL seconded that the accounts be passed. Carried.

Mr. PERRINS then proposed, and Mr. OVER seconded, that certain members (named), who had not conformed to Rule 4 of the Association, be struck off the list. Carried.

The following were then elected new members of the Association:—Messrs. G. Carless, Worcester; J. L. Barling, Hereford; H. Blunt, Lutterworth; R. R. Cole, Hinckley; Harvey Collett, West Bromwich; and C. J. Reynolds, Mansfield.

Honorary Associate.

The SECRETARY then proposed, and Mr. PERRINS seconded, that Mr. Carless, sen., of Stafford, be elected an honorary associate, to mark the esteem of the members, and in appreciation of the services which he had rendered the Association. Carried.

The President's Address.

The PRESIDENT delivered his inaugural address as follows:—

"GENTLEMEN,—I have the honour to appear before you to-day as President of this Association, and I beg to thank you for the high compliment you have paid me in electing me as your representative for the ensuing year. It was with great diffidence I accepted the honourable post you assigned me, as I felt I was treading in the footsteps of gentlemen who have presided over this Society with the greatest ability, and who have been able by their strenuous efforts to keep it healthy when similar associations have sickened and died. Three years ago this Association, although numerically strong, was not attended to the satisfaction of its office-bearers, and at one of our meetings we seriously considered the advisability of discontinuing the same; but it was ultimately resolved that further efforts should be made, and they have been successful mainly owing to the vigorous exertions of our presidents, and we may consider ourselves greatly indebted to Mr. Blakeway, then president, for

using every influence and well-directed scheme to make the meetings attractive, and during his term of office securing as essayists Professor Sampson Gamgee, and George Fleming, Esq., of the Royal Engineers. Mr. Greaves, who succeeded Mr. Blakeway, and has been up to the present your President, has always shown the most lively interest and kindest consideration for this Association ; and when he so kindly accepted the office, renewed confidence was secured, for it is not only to this Society, but to many similar ones, that he has with such great ability filled the presidential chair. For a long time we have been especially indebted to Mr. Greaves for his regular attendance at our meetings, and for introducing other members of the profession from a considerable distance; and I believe we are mainly indebted to him for his influence in having such distinguished essayists as Professor Williams and Sir F. Fitzwygram. So with this small tribute to those to whom honour is due, I will now ask for your kind indulgence and support in assisting me to keep this Association in its present useful condition,—which, I may now say, has enrolled as its members, with few exceptions, nearly all the principal veterinary surgeons of the midland counties ; and it only requires a glance at the list of the members' names to impress one with the idea of how useful an association of this character could be made, socially and politically. I have used the latter term not unadvisedly ; for although the primary objects of these meetings are scientific and social (and I should be very sorry if they did not receive the first consideration of its members), yet, as practical men, we could advantageously turn our attention to matters politically affecting the veterinary profession, and by making ourselves a representative body we could suggest, assist, and carry matters affecting the whole of the profession ; and it appears to me there never was a time more opportune than the present for effecting this end. Great reforms have taken place during the last few years, affecting alike the colleges, the students, and the practitioners. Rapid as the strides in these respects have been, they are continuing, and will continue, and it is for every member of our profession to watch with jealous care that no false steps are taken. You will doubtless ask what we can do, and can any more be done than has been done by us? My answer is 'Yes.' At the same time I by no means wish to presume to lay down any rule for so doing, yet it appears to me that when anything particularly affecting the profession as a whole occurs, we should immediately take up the subject, although it might be necessary to call a special meeting of the members. We read of agricultural and other societies acting promptly when their special interests are involved ; and we find that, by unlimited discussion and well-matured plans, they invariably attain their necessary purposes. I will therefore ask you, in the discussion following this address, to seriously consider the advisability of adopting certain measures for securing these ends. I would further suggest that a committee be at once established, whose duties it should be to carry out in detail resolutions passed at any of our meetings. I think at the present moment there are matters that would profitably occupy our time in debate. In May next there is to be an election of Members of Council of the Royal College of Veterinary Surgeons. Now, we have all heard a great deal about this being a London Council, and that there is a great paucity of provincial veterinary surgeons in it. If this is so, I would ask, 'How is it?' The answer, in my opinion, is that provincial veterinary surgeons have hitherto shown an apathy in attending the London meetings, and bringing forward one of their members to represent them. Now, to obviate this, voting papers will, I believe, for the first time, be sent to each member of the profession. This, on the surface, would appear all that could be necessary ; but it not unfrequently happens a man has a vote, but waives his privilege, for the simple reason that he has not had an opportunity of becoming fully acquainted with the merits of the distinguished

aspirant to such an honour. At such a time, veterinary medical associations could advantageously bring forward a candidate, and by combined exertions secure his election. We should then feel, as provincial veterinary surgeons, that we had our representative in Council, to whom we might commit any project affecting its members. Now, one other question that should at the present time pre-eminently occupy our attention is Cattle Plague and cattle diseases : the former dire malady has again made its appearance in this country. Although it is over ten years since a case of Rinderpest had been reported, it only required an official announcement that an animal had been affected with this disease to spread alarm throughout the length and breadth of Great Britain. The Legislature quickly took the initiative, and the Privy Council called upon local authorities and their inspectors to adopt the most active measures to arrest its progress; and it is due to a thorough organisation existing at this time throughout the country that we are not at the present moment hearing daily of hundreds of fresh outbreaks occurring, as was the case in the last visitation. I will not enter upon the history or past statistics of Cattle Plague, as I feel by so doing I should only be treading upon a well-explored track, that is more or less familiar to all of us. It is equally well understood that Cattle Plague, Pleuro-pneumonia, Foot-and-mouth Disease, and Sheep-pox are the only fatal epidemics affecting our herds and flocks. Each and all of these have their origin in foreign countries, and the British breeder may congratulate himself that contagious diseases would be unknown amongst his herds if it were not for animals imported into this country. As veterinary surgeons, it is only in cases of Foot-and-mouth Disease that we are allowed to treat contagiously affected animals ; and this is only necessary in a few instances, the law requiring in other cases immediate slaughter : so that the only duty that now remains for us (and an important one it is) is to detect these diseases in their earliest stages, in order that the now well-defined regulations can be carried into effect. In a few words, beyond this we are powerless in our operations ! Very different is it with the Legislature ; for it is in their power to effectually stamp out all of these diseases, and it is to the stringent measures adopted by them that the country alone must look. As far as detection and stamping out disease is concerned, all that could be done has been done; but there yet remains another most important matter to be dealt with,—that is, the prevention of these diseases being again and again re-imported into this country ; and it is a question that agriculturists will never cease to raise until a sufficient barrier has been found to secure these ends. That the question is one fraught with the greatest difficulty on all sides for the Legislature to deal with, must be admitted by every one ; for them to go further in the matter means a thorough revolution in the foreign supply of store and fat cattle, as it is only by adopting the much advocated policy of prohibiting the former, and slaughtering at the ports of disembarkation of the latter, that further immunity can be given than we at the present enjoy. In my opinion, so unimportant is the supply of store stock into this country, that the trade might at once be permanently suspended without causing great inconvenience to be felt ; and it is to this class of animals we must look for the bulk of the mischief in the dissemination of infection and contagion; for it is always in the dairies of large towns, supplied principally from this source, that we first hear of Cattle Plague, Pleuro-pneumonia, and Foot-and-mouth Disease. It seems most desirable that this portion of the cattle trade be at once checked, as any benefit accruing from foreign importations of store cattle is in the long run more than counter-balanced by the loss incurred from depreciation in value, by the loss of health, and death, resulting from these sources. And this matter has now become a point of so much dread amongst the graziers, that unless their future is better secured, that most wholesome enterprise in feeding our home

cattle at the enormous expense they have hitherto done, will be materially reduced, causing a severe loss to the country at large. What has been the experience of the farmers, for the last few years, who have been in the habit of making their cattle as ripe as possible, by means of a large expenditure in corn and cake? They have over and over again had their fat stock reduced to store condition by Foot-and-mouth Disease. This, I contend, is not only an individual loss, but a national calamity. It is only by repeated visitations of the more serious forms of disease that we can expect any Government to hamper further the foreign supply of fat stock to this country by dictating the exact place where they should be slaughtered; as any action of this kind would seriously interfere with the large supply of meat the country is at the present time receiving. I am more inclined to think that these ends will very soon be brought about by the natural course of events, as we invariably find that when an important experiment is brought to a successful issue, like the Americans are at the present showing us can be achieved, other nations adopt more or less their tactics; and when we are supplied with a regular transit by sea and by land for the traffic of dead meat, which the American system demands, it will be quickly taken advantage of by all our Continental neighbours, and they will find it more advantageous to forward over a great distance dead instead of live cattle. The Legislature can then say, when the importation of live stock is reduced to a minimum, that the trade in live cattle from abroad can be stopped without seriously affecting the national interests. These questions affect us as veterinarians, as well as the public at large, and it is by a free expression of opinion on our parts, gentlemen, that I hope for any practical results to accrue from my address to you to-day."

Selection of Candidate for Council.

The first topic discussed was the selection of a candidate to represent the Midland Counties at the Council Board. Mr. Blakeway and Mr. H. M. Stanley strongly advocated the immediate selection of some eminent veterinarian to be proposed as a candidate in the election of councillors in May to represent the Midland Counties; but after some discussion it was unanimously carried, at the proposal of Mr. PERRINS, seconded by Mr. BLUNT, that a committee be appointed to make such selection, and that it consist of Messrs. Perrins, H. M. Stanley, Carless, Greaves, Pyatt, Blakeway, E. Bailey, sen., and the Secretary, with the President.

Professional Charges.

Mr. PERRINS then brought forward the subject of professional charges. For examinations he had, for some time past, charged a guinea with the most satisfactory results, and thought we should all do so, and advocated a uniform charge for all. Messrs. Bailey, sen., Wiggins, Blakeway, Pyatt, Greaves, and the Secretary, spoke on the subject; and it was generally agreed that the increased value of horses, etc., gave greater responsibility to the veterinarian, and consequently he was justified in increasing his charge. Some thought the fee should be in proportion to the value of the horse, and others would charge extra for writing a certificate; but no resolution was moved on the subject.

Appointment of Inspectors.

It having come to the knowledge of the members of the Association that certain unqualified practitioners in the Midland Counties had been appointed inspectors under the Contagious Diseases (Animals) Act, a resolution was moved by the SECRETARY, and seconded by Mr. BLUNT, that the attention of the Veterinary Department of the Privy Council be called to the appointment of such unqualified practitioners, by local authorities, as being against the spirit and meaning of the Act. Carried.

Publication of the Address.

Mr. OVER proposed that the President be requested to allow his address to be published. Mr. GREAVES seconded the proposal.

The President having consented,

Mr. PYATT proposed, and Mr. BAILEY, sen., seconded, a vote of thanks to the President for his able address and conduct in the chair.

The PRESIDENT having briefly replied, the members adjourned for dinner, when a very pleasant evening was spent.

HARRY OLVER, *Hon. Sec.*

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of the above Society was held on the 28th of March, 1877, at the Blackfriars Hotel, Manchester, Mr. Tedbar Hopkin, president, in the chair.

The following gentlemen were present :—Messrs. John and Alexander Lawson, Tom Taylor, Samuel Locke, J. Faulkner, and W. A. Taylor, of Manchester ; Joseph Leather, Liverpool ; Charles Ashworth and Edward Woolner, Heywood ; Jonathan Bunnill, C. H. Thomas, and James Hart, Oldham ; H. Ferguson, Warrington ; Alfred Brooks, Pilkington ; James Marshall, Knutsford ; J. B. Taylor, Ashton-under-Lyne ; Thomas Briggs, Bury ; Alfred Darwell, Northwich ; W. Woods, Wigan ; W. Whittle, and W. C. Challinor, Worsley ; J. C. Atkinson, Stockport ; and the Secretary.

Letters of excuse were read from Messrs. Leather, Elam, Reynolds, Heyes, and Morgan, of Liverpool ; James Howell, of Rochdale ; and Barnes, of Malpas.

Mr. Briggs, of Bury, having been proposed by Mr. W. A. TAYLOR and seconded by Mr. WOODS, was duly elected a member of this Society,—as also was Mr. Alfred Brooks, of Pilkington, proposed by Mr. J. B. TAYLOR and seconded by Mr. W. WHITTLE.

The following gentlemen were nominated for election at the next quarterly meeting :—Mr. Atkinson and Mr. Beard, by Mr. Tom Taylor ; Mr. Peter Taylor and Mr. Faulkner, by Mr. W. A. Taylor ; Mr. James Marshall and Mr. C. H. Thomas, by Mr. J. B. Taylor ; and Mr. Thomas Greaves, by Mr. Woods.

The business on the circular was then proceeded with ; and after some discussion on the advisability of removing the place of meeting to some public institution, the matter was referred to a committee, to consist of Messrs. John Lawson, Tom Taylor, and the President.

Mr. W. A. TAYLOR brought forward the following resolution :—"That this meeting is of opinion that united action of the Northern and Midland Counties Veterinary Medical Societies is desirable, in order to secure the return to Council of gentlemen qualified to uphold the dignity and further the interests of the profession ; and further, that a committee be formed for carrying out the same." Seconded by Mr. ALEX. LAWSON, and carried.

The following gentlemen were elected to serve on the committee :—Messrs. W. A. Taylor, Tom Taylor, the President, Treasurer, and Secretary.

Mr. W. WHITTLE proposed that the committee be requested to wait on Mr. Peter Taylor, and ask him to allow himself to be nominated as a candidate for election to the Council Board. This was seconded by Mr. JOHN LAWSON, and carried.

Mr. HUGH FERGUSON then read, first, a communication on a case of disease of the superior maxillary bones in a two-year-old filly. The principal symptoms noticed were—a discharge of offensive-smelling pus from the nostrils, swelling over the facial region, a cough, loss of appetite, and ema-

ciation. The treatment consisted in blisters to the face, tonics internally, injections by the nostrils of astringents and disinfectants; and finally the sinuses were trephined, and the whole of them found to be filled with pus and extensively diseased. The animal eventually died from Tetanus. The morbid specimen of this disease was extremely interesting, and the relation of the case elicited an instructive discussion. Mr. Ferguson, secondly, placed upon the table a beautifully prepared specimen of Hydrocephalus in a calf; and, thirdly, exhibited a specimen of fracture and disease of the metatarsal bones of a horse. After these had been fully examined and commented upon, a cordial vote of thanks was passed to Mr. Ferguson.

Mr. TOM TAYLOR then related an uncommon case of disease that had occurred recently in his practice. The subject was a carriage-horse. The symptoms first noticed were—loss of condition, derangement of the stomach and bowels, constipation, yellowness of the visible membranes, and "paddling" with the hind-legs. The pulse was normal; calculi of the bladder were suspected. Stimulants and alteratives being administered, the case appeared to get quite well. Twenty-four days after, the animal became the subject of acute Bronchitis; effusion into the chest rapidly took place. There was regurgitation and temporary enlargement of the jugular veins, and dropsical swellings between the fore-legs. After the acute symptoms passed off, the pulse fell to 40, and was weak in character; and there was total loss of appetite. Death terminated the case; and the *post-mortem* examination revealed an extraordinary condition of the viscera. Attached to the sternum, and occupying a considerable space in the thorax, was a large fibro-cartilaginous tumour. A similar tumour was found in the mesentery, and a large cyst containing fluid in the region of the left kidney, this latter organ being absorbed; the liver was 60 pounds in weight and extensively diseased.

Mr. Taylor's case was listened to with great interest, and was followed by a prolonged and useful discussion, in which most of the members took part.

The thanks of the meeting were accorded to Mr. Taylor for his communication, and to the President for his service in the chair, and the proceedings terminated.

W. DACRE, *Hon. Sec.*

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE usual quarterly meeting was held on Tuesday, the 10th inst. In the unavoidable absence of the President, Professor Williams, Mr. Charles Patterson, Vice-president, occupied the chair.

There were also present Messrs. T. Greaves, Jno. Cuthbert, J. W. Anderton, Thos. Pratt, Peter Walker, J. H. Ferguson, W. G. Schofield, J. E. Scriven, D. Spillman, J. Atcherley, W. Lodge, D. G. Ross, Scots Greys, and the Hon. Sec.

Apologies for non-attendance were received from Messrs. Jas., Jos., and Jno. Freeman, E. C. Dray, Jno. Fryer, M. E. Naylor, W. Edmundson, Jas. Bale, Jno. Schofield, J. M. Axe, R. W. Murdoch, Jno. Faulkner, and S. Fallding.

Messrs. J. Atcherley, M.R.C.V.S., Harrogate, and W. Lodge, M.R.C.V.S., Dewsbury, were unanimously elected members of the Society.

Some discussion then took place on the forthcoming election of Members of Council, and after some remarks from Mr. Greaves and other gentlemen, the Honorary Secretary proposed—"That this Society co-operate with the other Societies to carry the selected candidates for Council honours." The motion was seconded by Mr. Ferguson, and carried unanimously.

Mr. Jno. Cuthbert, F.R.C.V.S., of Leeds, was selected as the Society's

candidate, and the members pledged themselves to use their utmost endeavours to ensure his election.

The SECRETARY explained that the tooth shears were broken at the cutting edges, and he was afraid that they were useless. After some discussion it was resolved that if they could not be repaired, a new pair should be purchased.

The HONORARY SECRETARY, after a few prefatory remarks, proposed the following resolution :—

"That in the opinion of this meeting, the legislative enactments which have been adopted with a view to prevent the introduction of Cattle Plague into this country have not been successful, and it is essentially necessary that all cattle coming from Continental ports should be slaughtered at the port of embarkation."

The motion was seconded by Mr. J. E. SCRIVEN, and carried unanimously.

Proposed by the Honorary Secretary, and seconded by Mr. W. G. Schofield, that a copy of the above resolution be forwarded to C. B. Denison, Esq., M.P., for presentation to the Lord President of the Privy Council. Carried.

Mr. ANDERTON related an interesting case of laceration of the rectum in a mare now under his treatment ; nothing whatever was known as to the cause of the accident. The constitutional symptoms were not very marked as yet ; the sloughing portions were very fœtid. A sloppy diet, with the application of antiseptics, was considered to be the only treatment possible.

Messrs. P. WALKER, J. H. FERGUSON, and T. GREAVES related other cases of injuries to the rectum. Mr. Greaves related a case of gradual emaciation in a horse ; no local or general symptoms had as yet been detected to indicate any true diagnosis of it. Several members gave their opinions as to the possible nature of the case.

WM. BROUGHTON, *Honorary Secretary.*

ONTARIO VETERINARY MEDICAL SOCIETY.

THE first meeting of this Society took place on January 11th. The President took the chair, amidst a hearty greeting. He made a few introductory remarks, urging the members to do their best to make the meetings, as heretofore, not only interesting, but instructive.

The usual preliminary business over, the President called on Mr. G. W. BATES, of Missouri (the Junior Silver Medalist of last year), to read his essay on "Diseases incident to Well-bred Cattle." To say he handled his subject in an efficient and exhaustive manner, thereby showing his intimate knowledge of and acquaintance with it, is not saying more than that to which he is entitled. After a discussion which lasted some time, and which arose out of the paper, the essayist sat down amid a well-merited round of applause.

Another meeting was held on January 25th, the President occupying the chair.

After the usual preliminary business, Mr. KENNING was called on by the President for his communication, which was the relation of a case of "Navicular Disease" that had come under his notice during the past summer.

Mr. E. S. ROGERS read an essay entitled "Diseases of the Hock Joint," taking up more particularly "Spavin," into the pathology of which he entered at considerable length. Both papers called forth a debate which was participated in by the members present.

A vote of thanks having been accorded to the essayists, the meeting adjourned.

A third meeting was held on March 1st. Two papers were read—one by Mr. Stalker of Iowa, entitled "Hog Cholera." The reader introduced his

subject in a very humorous manner, and then by sundry statistics showed the gravity and importance of the subject with which he was dealing, as he himself said that when the cattle interests were compared with such facts, they paled before them; and the ringbones, sprains and splints of the horse dwindled into insignificance. No doubt there is a very wild field open here for investigation, but the difficulties to be encountered are peculiar. The veterinary surgeon is usually to be found in cities and towns; but in the extensive regions of the Far West, where the hog interest is cultivated to so large a degree, none are to be found; so that the profession has hitherto had but scant opportunity for observing the fearful ravages of this disease.

The other paper was read by Mr. G. W. BATES, of Missouri, "Ovariotomy" being the subject. It was well treated; he showed what animals should and what should not be selected for this operation, and the practical results of the successful performance thereof. He then described the various methods, stating his partiality for the lateral abdominal, having had good success therewith.

Both papers created lively discussions.

MONTREAL VETERINARY MEDICAL ASSOCIATION.

THIS Association held its fortnightly meeting in the lecture-room of the College on March 7th. Prof. D. McEachran occupied the chair.

The following members of the Board of Agriculture were present :—J. M. Browning, Esq., President; L. H. Massue, Esq., Vice-President; Dr. Leclerc, Secretary; Hon. L. Beaubien, Speaker in the Local Government, etc. Mr. C. H. Byrne, V.S., was elected a member of the Association.

Mr. S. HERBERT read a communication on "Enteritis," and a discussion followed.

A carefully prepared paper on "Accidents and Injuries of the Generative Organs," was read by Mr. C. LEVESQUE, V.S., Berthierville. At the conclusion of his practical and very excellent paper, a debate took place.

Professor MCEACHRAN brought forward for consideration the subject of the prevailing epizoöty, pronouncing it in his opinion to be undoubtedly Variola Equina, and strengthening his position by quotations from standard authors, such as Roell, Bouley, Reynal, Chauveau, Fleming, and others. The Professor stated that, in connection with Professor Osler, he had performed experiments which had resulted in removing from their minds any doubts as to the disease being other than Variola : a dog and a cow being the subjects, and in the latter pure vaccine was produced. Several grooms and one veterinary student being accidentally inoculated with the virus, the effects were identical with those produced by vaccination. Among the members a slight difference of opinion was evinced in regard to it, but the majority sustained the Professor.

Before the meeting closed, J. M. BROWNING, Esq., President of the Board of Agriculture, in the course of some remarks made on behalf of the Board, congratulated the College upon its progress and growth, and eulogized its Professors on their indefatigable exertions for its welfare.

The Hon. L. BEAUBIEN addressed a few complimentary and encouraging words to the Association, and expressed the gratification felt by the Board of Agriculture on the advancement of the Veterinary Science in the Province of Quebec.

After a short address by the Vice-President of the Board of Agriculture, L. H. MASSUE, Esq., the meeting was brought to a close.

ROYAL AGRICULTURAL SOCIETY.

AT the meeting of this Society, held on April 11th, the Hon. W. EGERTON, M.P., reported the recommendation of the Committee that the Society pay the veterinary inspector's professional fee for visiting Mr. Marriage's herd at Chelmsford last month. The Committee recommended the payment to the Committee of the Brown Institution of the second moiety of the grant of £500 for the year 1876, and they further recommended that the grant of £250 for the year 1877 be paid in two instalments of £125 each, in June and in December. Dr. Burdon Sanderson had reported that the progress of the investigation relating to Pleuro-pneumonia at the Brown Institution had been seriously impeded by the presence and prevalence of Cattle Plague in the Metropolis. The series of experiments proposed in his report of December last had been nearly completed, so that what now remained to be done was to subject the animals of which the blood and tissues had been impregnated with infective liquids to the test of cohabitation with diseased animals. Means would be taken for this testing as soon as possible, but it was to be feared that the trials must be deferred until the decline of the present outbreak of Cattle Plague. This report was adopted.

Mr. WELLS presented the following report:—

"Professor Brown had reported that since the last meeting of the Committee, on March 6th, twelve outbreaks of Cattle Plague had been reported from different parts of the country. On the day of the meeting Cattle Plague was detected in a dairy of eleven cows in North Street, Hull. All the animals were slaughtered without delay, and the local authority declared a certain district round the premises an infected place.

"On March 8th an outbreak occurred in a herd of twenty-four cattle on a farm at Beelsby, near Grimsby, Lincolnshire. The inquiry which was instituted did not result in establishing any connection between this outbreak and the centres of infection at Hull, but it can scarcely be doubted that the Cattle Plague poison was in some indirect way, by the agency of persons or things which had been in contact with the diseased cattle, conveyed from Hull to Lincolnshire. The statement which was made that the outbreak was due to the introduction of bones from Germany is entirely without foundation. The only bones which had been brought to the premises were part of a lot which had been on the wharf at Grimsby for several months, and they came originally from Amsterdam.

"On March 12th an outbreak occurred in Stepney, in a large dairy of 123 cattle. The owner of these premises had suffered severely in the former outbreak of Cattle Plague in the Metropolis in 1865-7, and had consequently taken every possible precaution for his own protection, but without success. As soon as the disease was detected, measures were at once adopted for the purpose of arresting its spread: the premises were declared infected, the diseased cattle were slaughtered, and also all those that were on the premises.

"On March 20th another outbreak occurred, in a dairy of thirty-five cows in Whitechapel.

"On March 22nd another outbreak occurred in North Street, Hull, in a dairy of eight cows. These premises were within the infected place which had been previously declared by the local authority.

"On March 26th another outbreak occurred in the Metropolis, at a distance of something like seven miles from the centre of infection in the east of London. In this case the animals among which the Cattle Plague appeared were in a shed in Goldhawk Road, Shepherd's Bush. All the animals, thirty-one in number, were slaughtered. No direct connection can be traced between this outbreak and the disease in the east of London, but it was

stated at the time that a person who inoculates for Pleuro-pneumonia had operated some time previously on a number of the animals, and the disease, when first detected, was confined to the animals which had been so inoculated. The operator denied having been in contact with diseased animals, and there was no positive evidence adduced in opposition to his statement.

"On March 27th an outbreak occurred at Poplar among sixteen cattle. On the same day another outbreak occurred in St. George's in the East, among thirteen cattle.

"On March 31st Cattle Plague was detected in a cowshed at Poplar, among fourteen cattle.

"On April 3rd another outbreak occurred in St. George's in the East, among sixty-six cattle. All the animals in one shed were slaughtered, but those in another shed on the same premises being, it was alleged, perfectly isolated, were allowed to live. It has just been reported that, to avert the risk of the extension of the disease, an order has been given for the slaughter of all those animals.

"On April 7th an outbreak of Cattle Plague at Willesden was reported to the Veterinary Department, and the chief inspector was immediately instructed to make an inquiry. On his arrival he found fifteen animals suffering from the disease, many of them in the advanced stage. These animals were all slaughtered and buried the same evening. On the following day several other animals in the herd were found to be affected, and at a meeting of the local authority of Middlesex on Monday, instructions were given for the slaughter of the entire herd. The carcases of the healthy cattle will be removed, but the whole of the diseased animals, together with the hides and offal of the healthy cattle, will be buried on the farm. This outbreak of Cattle Plague is presumably connected with the one which occurred at Shepherd's Bush on March 26th, but no direct communication between the two centres has been traced. In none of these cases can satisfactory evidence be obtained, as the persons who could give precise information prefer for obvious reasons to remain silent.

"On April 7th an outbreak of Cattle Plague occurred in a dairy of ten cows at Shadwell.

"A report was published on Tuesday morning relative to an outbreak of Cattle Plague in Oxfordshire, but in reply to a telegram from the Veterinary Department, it was stated there was no Cattle Plague nor any other infectious disease known to exist in the locality referred to.

"It may be remarked in reference to the spreading of diseases in the Metropolis and its vicinity, that in no instance has an outbreak been traced to the movement of diseased or infected animals. The same thing was also observed in the outbreak in the Metropolis in 1865. Occasionally, in answer to inquiries, a dairyman would state that he had purchased a cow in the metropolitan market a week before the outbreak occurred; but in far the majority of instances the disease must have arisen from 'mediate contagion'—*i.e.*, by the agency of persons or substances which had been in contact with diseased animals. In attempting to account for the extension of the disease, it is not unfair to lay considerable stress upon the utter indifference which owners of dairy stock manifest as to the risk which they incur by the neglect of the commonest precautions. By Section 59 of the Contagious Diseases (Animals) Act, they are empowered to forbid the entrance of persons into their premises without permission, whenever Cattle Plague appears in a district of the local authority; but no instance is known of such prohibition having been enforced in any part of the district where Cattle Plague has recently appeared. It has been publicly stated that men who have been in contact with diseased animals are allowed to leave premises without previous disinfection; and it is known that milk-cans, and other apparatus used about

cattle, are moved from premises where the disease existed, without previous disinfection. Vehicles which are employed for the purpose of conveying fodder and manure are quite likely to carry the infection of Cattle Plague, but the owners of stock generally fail to recognise these sources of danger.

"A very widespread belief appears to exist in that most unfortunate of all delusions, the atmospheric theory of contagion ; and so long as stock-owners entertain the impression that the disease is 'brought by the air,' it is quite hopeless to expect that they will avail themselves of the means which they have at command for the protection of their animals. There cannot be a question that the contagion of Cattle Plague is of so virulent a character that precautions which, in reference to other contagious diseases, might fairly be deemed superfluous, are indispensably necessary to prevent its distribution. Too much attention cannot be paid to the adoption of means for the early detection of the disease, and the immediate application of all precautionary measures. It has been remarked during the present outbreak that some of the characteristic symptoms, particularly those appearances of the mucous membrane of the mouth, which were so commonly observed in the former outbreaks, have been absent ; owing to this circumstance, the inspectors have sometimes been unable to arrive at an immediate decision as to the nature of the disease. It is very desirable, however, that in any case of doubt communication should be at once made by telegram to the Veterinary Department, and the suspected animals should be as carefully isolated as though the existence of Cattle Plague were a matter of certainty.

"In reference to the action which has been taken by local authorities in districts where Cattle Plague has appeared, it may be stated that in Essex, and also in Hull and in Lincolnshire, the disease appears to have been effectually arrested.

"In the Metropolis the Board of Works have recently made an order prohibiting the movement of cattle, except by licence, in that part of the Metropolis north of the Thames. The City authorities have passed a similar order. Introduction of store cattle into the Metropolis has been absolutely prohibited.

"The Middlesex local authority have passed an order prohibiting fairs and markets and the movement of cattle, except by licence, in the county.

"The Committee recommended that Professor Brown's report on the Cattle Plague be sent to the local authorities throughout the country. Considering the difficulties with which the local authorities have to contend in dealing with the continued and alarming outbreaks of Cattle Plague in the Metropolis and the county of Middlesex, it appeared to the Committee that the Government should itself take immediate action in the home counties, instead of leaving the necessary steps to be taken by the local authorities."

Mr. JACOB WILSON stated his opinion that agriculturists generally had no confidence in the ability of local authorities to cope with the danger which now threatened the stock-owners of the country. No doubt the local authorities as a rule endeavoured to do their duty as far as they knew how, but in many cases their inspectors had not sufficient knowledge to be able to pronounce decisively whether a particular case of disease was an outbreak of Cattle Plague or not. Therefore, on the one hand, the local authorities often did not know what to do, and when they did know, they hesitated to do it at the right time ; while it was to the interest of their inspectors, who had their own private business to attend to, that they should do as little as possible. He therefore hoped that not only this Council, but the agriculturists of England generally, would show a united desire that the Privy Council should take the matter into their own hands ; and that they were quite satisfied it would then be done in the right way. They were not asking the Privy Council to do more than they had done during the outbreak in 1865. By

declaring Middlesex an infected district he thought the requirements of the case would be met, so far as the Willesden outbreak was concerned. He should like, however, Professor Simonds to give an expression of his opinion on the subject.

Professor SIMONDS said there could be but one opinion with regard to the gravity of the present outbreak. When it was first ascertained that Cattle Plague had appeared in England, it was hoped that as Deptford, where it first appeared, possessed special facilities for preventing the extension of the disease, it would not spread further. Unfortunately, however, it did spread, and it was a singular fact that the next outbreak took place on the north side of the Thames. This second outbreak had proved to be the chief focus of infection, from which the disease had spread,—some of the outbreaks having taken place in the Metropolis at a period of time which would lead one almost to suppose that the disease had been suppressed, showing clearly that some special cause for the spread of infection was in operation. The disease thus went on at uncertain intervals, and gained a footing in Essex, and now, unfortunately, had returned to Middlesex—outside the Metropolis. There could be no doubt that the local authorities possessed sufficient power but it was not always sufficiently exercised. Looking at this outbreak as a whole, there was abundant evidence of that.

Earl SPENCER thought the remarks of Professor Simonds were very valuable, and the more widely they were made known the better it would be for the country. With regard to the Cattle Plague, we could not impress upon the public too much the insidious nature of the disease. He thought the resolutions which the Committee had come to, and wished to press upon the Government, were very opportune, and should be adopted. Up to this time the Government had had a good deal to be said in favour of the view they took—that it was impossible to adopt uniform measures all over the country, as there were circumstances which made it difficult to pursue that course. But when we came to imminent danger, and had to deal with a smaller district, the case was different. He thought the Cattle Plague could be controlled if complete isolation were carried out, and if the slaughter was also carried out vigorously. We should thus see, as in Hull and in Lincolnshire, the Cattle Plague could be entirely got rid of. In Middlesex there was great difficulty in carrying out complete isolation, and a stronger hand was required than the local authority. The places where the Cattle Plague now lurked were where it was the habit to herd a large number of cattle for milking purposes. He should like to know whether in the case of the outbreak at Willesden it was in a dairy where a large number of cows were herded?

Professor SIMONDS.—"It is a dairy."

Earl SPENCER said it was in some way a consolation to think that the disease had not yet spread to where cattle were grazing out. From the high state in which herded cattle were fed they were more susceptible to disease than others. He had not with him a copy of the order just issued by the Middlesex magistrates, but he believed he was right in saying that it did not include sheep. No doubt Professor Simonds would bear him out in saying that on the occasion of the last great outbreak many sheep were affected with Cattle Disease.

Professor SIMONDS.—"Some twenty-five counties in England, and five in Scotland, had sheep affected with the disease in 1866."

Earl SPENCER.—Sheep on the same farm with cattle also carried the disease in their fleeces, and in this way were a cause of danger. In making an order in Northamptonshire the other day, it was not thought necessary to include sheep at that time, as Cattle Plague had not appeared there, but he was thoroughly of opinion that if Cattle Plague was actually within the boundaries of a district the authorities were bound, for safety's sake, to

include sheep. If the Middlesex magistrates had not included sheep, he regarded it as a great oversight on their part; but it was an omission which might be overcome if the Government took a more active part. Before the Commission of 1865 a great deal of evidence was adduced on the subject of contagion, and he came then to the conclusion that Cattle Plague was almost always conveyed by contagion; but he should be sorry to say that it was impossible that the air could carry particles of the contagium with it. He just mentioned this, because it was laid down very strongly in the report that in hardly any case could it be carried by the air.

Mr. DENT hoped that, as the Council had on past occasions dealt with the matter generally, they would now deal with the report of the Committee entirely. He was sure those members of the Committee who heard what Professor Brown said on the previous day with regard to the recklessness of drovers and butchers' men in going from dairy to dairy, must apprehend great danger from that cause. The Committee put the question to Professor Brown why such persons had not been prosecuted, and the reply was, that it was the duty of the local authority to institute such prosecutions. The Committee had come to the conclusion that in a large county like Middlesex, the local authority were not strong enough, and he hoped the Council would think also that in the home counties, at all events, during the present outbreak, the Government should take the matter into their own hands, and strictly carry out the law.

The Hon. W. EGERTON, M.P., supported the views of the Committee with regard to the Government taking upon themselves the responsibility of carrying out the orders in the home counties. This would of course involve very great expense, and possibly a fund would be required from Government; and he thought the Council should, at the proposed interview with the Lord President of the Privy Council, also urge upon his Grace to take all requisite steps to carry out the orders. The Council had the strongest possible case to go before the Government, and ask them to make more stringent regulations with regard to the movement of human beings in cases of outbreaks of disease. It was of course a very difficult thing in this country to control the movements of individuals, but he thought it would be seen it was the only way in which foreign Governments had stamped out the disease, and we had now sufficient evidence to warrant us in adopting the same course. We might thus be saved from the great scourge which ten years ago cost his own county hundreds of thousands of pounds, whereas a few thousand pounds spent by the Government might free us from the Plague. He begged to move, "That a deputation wait upon the Lord President of the Privy Council to lay before them the views of the Council."

Colonel KINGSCOTE, C.B., M.P., in supporting the views of the previous speakers, said it was with the greatest regret that the Council found themselves compelled to go on discussing this dreadful Cattle Plague. No words of his could add to the gravity of the situation, for he certainly considered that the outbreak at Willesden was one of the gravest things which had happened for a long time. Only last evening he elicited from Lord Sandon, in the House of Commons, the fact that the owner of the diseased cattle at Willesden suspected an outbreak of the disease as early as the 3rd of April. The local inspector took three days to make up his mind, and the outbreak was not reported to the Privy Council until one o'clock on Saturday, the 7th of April. Contagion might or might not have been spread to any part of England in consequence. Therefore, he thought it would be seen how important it was that the Government should take the matter into their own hands, even if an Act of Parliament should be required for the purpose. We were told that contagion was conveyed even by milk-cans. Then, again, cans were sent up from the country and back again, and were just as likely to

carry the disease as anything else ; even dogs and cats should be stopped from going in or out of an infected district. If Government did not take the matter into their own hands, he for one dreaded the consequences. Lord Sandon had given notice to move for a Committee to inquire into the outbreak ; but what could a Committee tell us that we did not know already? If they wanted a Committee to tell us how it came here, that was another thing. He could not see that the Committee would do the slightest good in the world. What was the use of waiting until the Committee had reported—probably about the end of July? He had great pleasure in seconding the motion that a deputation wait upon the Duke of Richmond and Gordon.

Mr. RIDLEY, M.P., hoped that the Government did not intend by this Committee to shelve immediate action. He could imagine that there was some desire on the part of the Government to find a loophole with regard to the importation of live stock into this country ; but what they had to impress upon them was to deal with a different subject altogether. He was sure that every gentleman present was agreed that with regard to the home counties certainly the Government ought to take the matter into their own hands. Let them submit to his Grace that while the Council welcomed the Committee, in the hope that it might do some good, they strongly urged the Government to supplement the action of the local authority. The deputation might supplement the report of the Committee by suggesting that sheep should be included in the order.

Mr. DENT thought the deputation should leave out all reference to the proposed Committee, and only ask the Government to take action.

The Hon. W. EGERTON said that, so far as his motion was concerned, he wished to keep to the one question of asking the Government to take the responsibility with regard to London and the home counties.

Mr. Egerton's motion was then unanimously agreed to, after which the report was received and adopted.

Parliamentary Intelligence.

HOUSE OF LORDS.

March 19, 1877.

THE CATTLE PLAGUE.

EARL FORTESCUE, in asking the President of the Council whether the Cattle Plague had spread any further, reminded their lordships of the magnitude of the interests at stake in connexion with our cattle supply. Since the appearance of the Plague the measures adopted by the Lord President were characterised by vigour, excellent judgment, and a readiness to take upon himself the responsibility of any attempt to stamp out the disease before it could spread. On a former occasion the noble duke said that the Cattle Plague never had spread in Norway, Sweden, Denmark, Spain, or Portugal. He had the authority of Mr. Fleming, the eminent veterinary surgeon, for saying that the noble duke had been misinformed. The Royal Agricultural Society had passed a resolution against the importation of any live stock from abroad. On a former occasion the noble duke had expressed an opinion that to stop the importation of live cattle would be an interference with vested interests of remote date ; but the fact was that the vested interests referred to were of comparatively recent date. He agreed with an opinion stated at a meeting of the Agricultural Society, that a strict quarantine would prevent the importation of disease ; but such a quarantine would be impracticable in the

case of fat stock. Foreign meat for consumption in this country could be brought here much better dead than alive, and its importation in the former state would put an end to the suffering endured by fat stock in their passage on shipboard. The only effectual means of preventing importation of the Plague was the prohibition of the importation of stock intended for the meat market. All such stock ought to be slaughtered at the port of embarkation.

The Duke of RICHMOND and GORDON assured the noble earl that the Government were fully alive to the importance of this subject, and that they had not ceased, since the first outbreak occurred, to give it their earnest attention. He might add that, being largely engaged in agricultural pursuits both in the north of Scotland and the south of England, he had himself a considerable personal interest in the matter. With regard to the Cattle Plague and its present complexion, he would remind their lordships that the disease came to this country from Hamburg through Deptford. It broke out in Limehouse on January 13th, and made its appearance at various places within a limited area down to March 12th. Since then no fresh outbreaks in the Limehouse district had been reported. At Hull the disease appeared on the 15th of February, and there had been some three or four outbreaks down to March 6th, but none since then ; and he might state that his information came down to four o'clock that very afternoon. The only other place where the disease had broken out was a farm in Lincolnshire, some nine miles from Hull. It made its appearance there on March 9th, and immediately all the animals on the farm were destroyed and the farm itself completely isolated, since which no further outbreak had been reported. On the outbreak occurring at Deptford, an Order in Council was issued scheduling sheep and goats from Germany, France, and Belgium ; and shortly afterwards cattle were altogether prohibited from Germany and Belgium. These measures, it was to be observed, were taken before the appearance of the Plague in other parts of the country. When the disease appeared at Limehouse the holding of fairs and markets in the district was prohibited except under licence, and the Netherlands were scheduled. An Order in Council was also issued empowering local authorities to stop fairs and markets and to prohibit the movement of cattle within their respective districts if they thought fit. Several local authorities had availed themselves of those powers. He himself further advised the issuing of an Order in Council stopping fairs and markets in the East Riding of Yorkshire ; and in consequence of the vicinity of Lincolnshire he had caused the same order to be extended to that county previous to the outbreak there. In Lincolnshire, therefore, when the outbreak did occur, no fairs or markets could be held, and, as elsewhere, the authorities had power to prohibit the movement of cattle. So far, then, he thought it not unfair to assume that the stringent measures which had been adopted had succeeded in arresting the progress of that very fatal and insidious disease. He had now to apologise to the noble earl for having on a former occasion challenged certain statements of his without being strictly accurate himself. So far as the existence of the Cattle Plague in this country was concerned, he (the Duke of Richmond and Gordon) on the occasion referred to was not alluding to what had taken place more than a hundred years ago. He was speaking as to what had happened within the present century ; and he was not sure, nor did he think the noble earl was prepared to say, that the disease of last century was the same disease as that with which we had now to deal.* He now came to that part of the question which related to

* "CATTLE PLAGUE IN THE LAST CENTURY.—Mr. George Fleming, the well-known veterinary surgeon to the Royal Engineers, writes to us from Chatham :—'From the report of the discussion on Cattle Plague in the House of Lords on Monday evening, it would appear that doubts are entertained as to whether the malady which so scourged Europe during the last century —including Denmark, Nor-

the resolution of the Royal Agricultural Society in favour of the stoppage of the importation of animals altogether. In referring to that resolution the noble lord, he supposed, intended not so much to express approval or disapproval of it as to call attention to the subject generally. If that resolution, which had been moved by an eminent agriculturist, an intimate friend of his, Mr. Jacob Wilson, were carried into effect, it would suddenly withdraw from the annual consumption of this country between 200,000 and 300,000 cattle, about 1,000,000 sheep, and from 40,000 to 50,000 swine—a million and a half of animals altogether. The proposal, therefore, was one whose importance could hardly be over-estimated, whether expressed in the form in which Mr. Jacob Wilson put it, or in the modified language of the noble lord. It was a very serious matter for consideration whether the total withdrawal of no fewer than one million and a half of animals from this country would be compensated for by the dead meat which would come into this kingdom. They must not lose sight of the effect of the mode in which the trade was now carried on. Of course, if the noble earl or Mr. Wilson could prove that the animals which would come in alive for the purposes of fat stock would be represented by a like quantity of dead meat in carcase, no doubt there might be a great deal to be said for that proposition. But the noble earl would admit that there was a very great difference between the trade in live animals and the trade in carcase, which were carried on in a totally different manner. If they brought over to this country a quantity of fat stock, and the market was not exactly such as suited them, the animals were not killed, but were kept for another market; whereas, if the meat came over in carcase, they were liable to all the alternations of atmosphere, fog, and heat, which might occur when the meat came, and the meat must be sold when it arrived in this country, whatever might be the price at that particular time, or it would become totally unfit for human food, and have to be condemned. Thus, it might be a matter of grave consideration whether the persons who were willing to send fat animals to this country in the condition in which they came now would be equally willing and able, in fact, to send the same quantity over in the form of dead meat. He passed by—though it was a point which would have to be taken into account—the question of the great amount of food that was provided for the lower classes in the large towns in respect of the offal of the animals which came over alive, and which would be stopped if the animals were prevented from coming in alive. He had an illustration of what the effect of

way, Sweden, and Spain—was the same as that with which we are now, unfortunately, only too familiar. Why these doubts should exist I know not. Certainly, those epizoötologists who have made this and other contagious diseases of animals their special study, do not for a moment hesitate to look upon them as one and the same disease. Some of the very best monographs written on the malady during the last century—and their titles alone would fill a small volume—prove this, and they are as useful now in studying the subject as some of the works recently issued. Indeed, the observers of one hundred years ago, the foremost medical men and veterinarians of that time, have left but little for us to do, so far as symptomatology and pathological anatomy are concerned. I need only here point out that one of the most characteristic and diagnostic indications of the pestilence—the peculiar cheesy-looking exudation on the gums, and beneath it the claret-coloured patches, the so-called "erosions of Kausch"—was then described by a physician of that name. The Danish physicians have also left us undeniable evidence that the disease which visited and almost deprived Denmark, Sweden, and Norway of their bovine and ovine populations was the veritable Cattle Plague of now-a-days. We have similar evidence from Spain. From the terrible destructiveness and rapidity of extension of this contagion it has from the very earliest times attracted the attention of the historian, and later, of the medical faculty; and, as I have before mentioned, perhaps no disease affecting the human species—certainly none attacking animals—has been so fully traced or clearly described.'"—*The Times*, March 24th.

putting some check on the importation of animals into this country had been. In the six years ending in 1869 we had from France 112,618 cattle, but in the year 1870 France became what was called a scheduled country, when the animals had either to be slaughtered at the port of debarkation or quarantined, if that was thought advisable; and the restrictions on cattle coming from France at that time were such that, whereas in the six years ending in 1869 the cattle coming in from France were 112,618, in the seven following years the number which came was only 24,095. He mentioned that merely to show how cautious they ought to be in dealing with that question before they suddenly adopted a different method of procedure. He did not admit that he was so great a convert as the noble earl seemed to intimate. The noble earl stated that that ought to be done to prevent the introduction of disease into this country, but had he forgotten that we had Foot-and-mouth Disease and Pleuro-pneumonia both existing in this country before foreign animals were permitted to come in? Therefore, Foot-and-mouth Disease and Pleuro-pneumonia were not dependent on the introduction of foreign stock. Cattle Plague was another matter; but he understood the noble earl's argument to apply to all disease. [Earl FORTESCUE expressed dissent.] Was he to understand the noble earl to say that he would only seek to prevent the introduction of fat stock into the country to keep out Cattle Plague, or would he equally exclude Foot-and-mouth Disease and Pleuro-pneumonia? He apprehended that he must wish to exclude those two other diseases as well; but they both existed in this country before foreign animals were admitted. He hoped that he had now shown, with regard to fat stock, that it would be necessary to observe the greatest possible caution before they so interfered with the food supply of the people. He now came to the second part of the noble earl's second proposition—namely, that while they ought to exclude fat stock, store stock ought to be admitted. He wanted to know why they were to make that distinction. For if they were to exclude fat stock because it would introduce Cattle Plague, why were they not to exclude store stock?—because it would equally introduce Cattle Plague. If the argument was good in the one case it was equally good in the other. Once they granted that for the purpose of excluding Cattle Plague they ought to keep out fat stock, it was impossible to avoid the logical conclusion that they must also keep out store stock. A lean animal would just as easily introduce Cattle Plague as a fat animal would do. But the noble earl said they could meet that difficulty by a quarantine of sufficient strictness to secure perfect immunity. He had often heard it said that they ought to have a quarantine, and the suggestion sounded very well; but he had never heard from anybody a practical solution of how that was to be carried out. He himself had had to sit down and try to see how such a quarantine could be practically adopted, and he had found it to one of the most difficult things in the world. The noble earl said it must be a quarantine of sufficient time to insure immunity from disease. What was that sufficient time? Suppose a cargo of animals had arrived, that they were placed in a quarantine ground, and that disease broke out among them. Were they to be kept there until they were believed to be well? If it was Foot-and-mouth Disease, or Pleuro-pneumonia, or Cattle Plague, they would kill them. But before they had got rid of that lot another lot would come, perhaps, entirely free from disease, and they were to be put in quarantine where the disease existed. It would be very hard to place them where they would be sure to get the disease, and to keep them there until they were well, because they were not going to kill them, as they were store cattle. The result would, therefore, be that they would bring animals to a place which must become a hotbed of disease; and if they were there, and if they took the disease, and it was working among them, they would have to be kept for

the period which might be fixed upon, and then they might go out to the country and carry the Plague to whatever part of the kingdom they might be sent. As far, therefore, as he could see, there was no mode in which they could practically carry out such a quarantine. First of all, they would have to establish very large quarantine grounds in various parts of the country. Could they do that at the ports at which the animals arrived? They would have to provide for them ground, and also pasture land for those animals which were grass-fed. They would have to set apart such an enormous space that it would be very difficult to carry out the plan. There had been an experiment made at Harwich in respect to quarantine. Some cows and calves were landed from the Netherlands, and they were ordered to be slaughtered, as Foot-and-mouth Disease appeared among them; but the owners were rather rebellious, thinking that a very strong operation, and they asked that the animals might be allowed to be kept in quarantine. They were accordingly kept six weeks, until the animals affected got well. In the meantime the shed was thoroughly infected, and at the expiration of that time the expense to the owners of the animals had been of so costly a character that the experiment was not one to be repeated. There was the great question, also, to be considered of what necessity there was for having store stock introduced into this country. On that they had not evidence now before them to show how far we were dependent on foreign countries for our store stock. There were some parts of the country where we did not require to import store animals, while in other parts they were rather necessary for carrying out agricultural operations. In some cases great importance was attached to cows coming from Holland for dairy purposes. All those, however, were matters about which they were not at that moment able to speak with anything like certainty. And considering that the attention of the public had been turned to the subject of Cattle Disease in consequence of the outbreak of that disease—which outbreak he was happy to say had been, as far as they knew, arrested—the Government thought that that was a time at which it would be well that further information should be obtained before the very serious step was taken of acceding to the proposition made by the noble earl and by the Royal Agricultural Society. It was, therefore, the intention of Her Majesty's Government to have an inquiry forthwith into the whole subject of Cattle Disease, and into other matters connected with the proposal made by the noble lord.

In the House of Commons, on the same occasion, Mr. ELLIOT asked the Vice-President of the Council whether the attention of the Government had been called to the resolution passed by the Council of the Royal Agricultural Society on the 7th of March with respect to the Rinderpest, and whether the Government were prepared to adopt the precautions suggested in that resolution.

Viscount SANDON.—"I need hardly say that the attention of the Government has been called to the resolution of the Council of the Royal Agricultural Society respecting the Cattle Plague; and I may add that many other memorials from various quarters have reached the Government on the same subject. The Lord President has been taking most stringent measures, as the House is aware, to prevent the spread of this terrible disorder; and as no fresh outbreaks have occurred in Hull since March 7th, in Lincolnshire since March 9th, and in London since March 12th, there appear to be good grounds for hoping that the disease is being satisfactorily grappled with. The accounts from abroad are also favourable. The proposal to stop the importation of all stock, fat and store, from all parts of Europe is a very grave one, and considering its possible effect upon the food supply of the country, is one which requires the greatest consideration. Before coming to a decision upon

the course which is desirable, the Government is of opinion that it would be necessary to hear more fully the views of those interested in the matter, both in town and country; and they will therefore propose forthwith a Parliamentary inquiry into the question."

Subsequently, in reply to Sir G. JENKINSON,

Lord SANDON said it was the intention of the Government to move for a Committee of the House on this subject, and he should give due notice of the motion.

Tuesday, April 10.

Sir W. BARTTELOT asked the Vice-President of the Council whether an outbreak of Cattle Plague had occurred at Willesden; if so, what steps had been taken by the local authority to stamp out the disease, and whether he was able to trace in any way the source of this fresh outbreak. He also wished to ask his noble friend whether it was true that an outbreak of Cattle Plague had occurred at Kirklington, in Oxfordshire, at a considerable distance from London.

Lord SANDON.—"I regret to say that an outbreak of Cattle Plague at Willesden was reported to the Veterinary Department on Saturday, the 7th of April. The Chief Inspector was instructed to proceed to the place at once, and on his arrival he found 15 cows, out of a herd of 157, affected with the disease. These animals were immediately slaughtered and buried. On the following day other cases occurred, and the Middlesex Local Authority, which appears to be acting with great promptitude on this occasion, held a meeting on Monday, and ordered the slaughter of the whole herd, and directed the adoption of other precautionary measures under the Act and Orders to prevent the spreading of the disease. They have also stopped all fairs and markets, and the movement of cattle in the county. We suppose that the outbreak was connected with that at Shepherd's Bush, but as yet no direct connexion between the two has been traced. In consequence of a report in some of the morning papers that Cattle Plague had appeared on a farm at Kirklington, in Oxfordshire, the Clerk of the Council telegraphed to the Clerk of the Peace, and, I am glad to say, received the following reply :—'The report is untrue. The case at Kirklington is wholly unconnected with Cattle Plague or any contagious disease.' I beg to give notice that on Thursday next I shall move for a Select Committee to inquire into the causes of the recent outbreak of Cattle Plague, and the measures taken for its repression; into the effect which the importation of live foreign animals has upon the introduction of the disease into this country; and how far such importation is essential to the food supply of the country."

Sir W. BARTTELOT wished to know whether instructions had been given that the manure of the infected cattle should be burnt or destroyed.

Lord SANDON did not know precisely what the local authorities had done in that matter; but instructions were given by the inspectors that the manure should be either disinfected or burnt.

Colonel KINGSCOTE understood that the disease broke out at Willesden on the 3rd of April, and was known to be Cattle Plague, but it was not reported to the Privy Council till late in the afternoon of the 7th.

Lord SANDON was afraid there was some truth in that statement.

NEW MEMBERS OF THE PROFESSION.

AT the several meetings of the Court of Examiners of the Royal College of Veterinary Surgeons, held during the week commencing April 3rd, the fol-

lowing students from the Royal Veterinary College received the diploma and were admitted members of the profession :—

Messrs. Thomas Chambers, Fakenham, Norfolk; Samuel William Slattery, London; George Hammond Harris, Sawbridgeworth, Herts; Lawrence Clarke Tipper, Birmingham; Henry Moore, Great Yarmouth, Norfolk; James Charles Bonnett, London; Henry Paul Chase, Ilminster, Somerset; Charles Edward Smith, London; Alfred Edward Dalby, Coleshill, Warwickshire; Robert Ernest Hoile, Lympne, Hythe, Kent; Thomas Frederick Hogben, Lyminge, Kent; Frederick Augustus Auger, Walpole, Suffolk; John Foulston, North Kelsey, Lincolnshire; John William Rigby, Thatto Heath, Prescot; Matthew Hedley, jun., Darlington, Durham; Walter Masterman Barber, Osbaldwick, York; John Henry Loft, Great Grimsby, Lincolnshire; Henry Pelham Webb, Nuneaton, Warwickshire; Charles Sheather, London; John William Akerman Morgan, London; Percy Gregory, Tonbridge, Kent; Frederick William Taylor, Cheltenham; Elias Kyffin, Abergele, Denbighshire; George Grigson, Walton, Norfolk; John Albert Clarke, March, Cambs; Richard Glover, Stratford, Essex; Edward Moore, Washington, Albany, U.S.; William Thomas Briggs, Babraham, Cambridgeshire; Frank Achey Holmes, Hemswell, Kirton-in-Lindsey; and James Joseph Williams, Camberwell, London.

The following gentlemen passed their Examinations with "*very great credit*":—Messrs. Thomas Chambers, Lawrence Clarke Tipper, Robert Ernest Hoile, John William Rigby, Matthew Hedley, and Charles Sheather. The following passed with "*great credit*":—Messrs. Charles Edward Smith, Walter M. Barber, John W. A. Morgan, and Percy Gregory.

The following students of the Royal Veterinary College passed their First Examination at the meetings of the Court of Examiners on April 9th and 10th :—

April 9th.

Mr. George Wartnaby
„ John Joseph Burchnall
„ Sydney Sturgess
„ William Edward White
Mr. John Richard Carless
„ William Ashton Hancock
„ Charles Henry Betser
„ James Broad

Mr. Frederick William Day.

April 10th.

Mr. Edward Lyne Dixon
Mr. Richard Page Bull

Mr. William Stanley Carless.

ROYAL COLLEGE OF VETERINARY SURGEONS' EXAMINATIONS.

AT the several meetings of the Scottish section of the Court of Examiners of the Royal College of Veterinary Surgeons, held in Edinburgh and Glasgow on April 18th, 19th, and 21st, the following students passed their final examination, and received the diploma of the Royal College of Veterinary Surgeons :—

Edinburgh Veterinary College.

Mr. John Edward Grey, Edinburgh.
„ Archibald Baird, Edinburgh.
„ William Reekie, Walton Auchtertool, Kirkcaldy.
„ Michael Smith, Old Castle, Meath, Ireland.
„ Nicholas Power, Clonea, Dungarvan, Co. Waterford.
„ Charles Gelderd, Edinburgh.

Mr. Charles Gelderd passed "with very great credit," and Mr. Wm. Reekie "with great credit."

Edinburgh New Veterinary College.

Mr. Alexander Bain, Reay, Caithness.
„ William Knight Lewis, Oldham, Lancashire.
„ Henry Thomas Hodgkinson, Manchester.
„ Robert Moreton, London.
„ Robert Cowan, Stevenston, Ayrshire.
„ Andrew J. Milne, Woolwich, Kent.
„ Richard Malone, Wexford, Ireland.
„ Robert Lees Robertson, Thornton, Yorkshire.
„ William Henry Roughsedge, St. Helen's, Lancashire.
„ George Marshall, Glanton, Alnwick, Northumberland.
„ Frederick Glass, Durris, Aberdeen.
„ William Atkinson, Masham, Yorkshire.
„ Daniel Crosbie, Munphy, Co. Cork.
„ Alfred Walker Hodgson, Sheriff Hutton, Yorkshire.

Mr. Robert Moreton passed with great credit.

Glasgow Veterinary College.

Mr. John Hadden, Moffat, Dumfries-shire.
„ Thomas Robertson, Binnie Place, Glasgow.
„ John Gray, Tongue, Tarbolton, Ayrshire.
„ Andrew Clarke, Dalserf, Lanarkshire.
„ Robert McM. Banks, Ayr.
„ Florance Jenner Insall, Solihull, Warwickshire.
„ Duncan M'Farlane, Killin, Perthshire.
„ Donald Macpherson, Inverary, Argyleshire.
„ James Macqueen, East Kilbride, Lanarkshire.
„ John Buntaine, Kilmalcolm, Renfrewshire.
„ James Wilson, Douglas, Lanarkshire.
„ George Gair, Conon Bridge, Dingwall, Ross-shire.
„ David Thomson, Bankfoot, Perthshire.
„ Harry A. Woodroffe, Island Bridge, Dublin.
„ John Pollock, Bellshill, Lanarkshire.
„ John Compton Hingston, Bay City, Michigan, U.S.A.
„ David Sinclair, Craigie, Ayrshire.
„ Archibald Martin, Rothesay, Bute.

Messrs. Thomas Robertson, Robert McM. Banks, Florance J. Insall, James MacQueen, and James Wilson passed "with great credit."

The following students passed their "First Examination":—

Edinburgh Veterinary College.

Mr. John Kirk.
„ Thos. John Watt Dollar.
„ John Thos. Gregory.
Mr. Edmund Day.
„ William Howan Pringle.
„ George Henry Watkins.

Edinburgh New Veterinary College.

Mr. Edward Howard.
„ Joseph Darbyshire.
„ Richard Ellis.
„ David Crabb.
Mr. John Thos. Phillips.
„ Jas. Wm. Henry Ashe.
„ George Milton.
„ William Geo. Chisnall.

Glasgow Veterinary College.

Mr. John Ford Barry.
Mr. John Webster.
Mr. Amos Wilkinson.

Jurisprudence.

HORSE WARRANTY CASE.

NISI PRIUS COURT, DURHAM, Feb. 27. (Before Lord Chief Justice Coleridge.)

FOWLER *v.* WRIGHT.

MR. HERSCHELL, Q.C., M.P., and Mr. Edge appeared for plaintiff; and Mr. Digby Seymour, Q.C., and Mr. H. Shield for defendant.

Mr. Herschell, in opening the case, said the plaintiff had carried on business for many years in this city as a provision merchant; and defendant was a horse-dealer at Thirsk. The action was brought to recover damages for breach of warranty by the defendant, with reference to a horse which Mr. Fowler had purchased for the purpose of being employed in his business. There could be no dispute about the warranty, as was often the case in such trials as these, as such warranty was given in writing by defendant, and therefore it was beyond all question; the only dispute that might arise was whether the warranty was broken. But the great question at issue was whether the horse was, or was not, fit to work in harness at the time it was sold. If the horse had been fit for harness there was not the slightest reason why Mr. Fowler should not have stuck by his bargain, and kept the animal; but he found it was not fit for his purpose.

Matthew Fowler, son of the plaintiff, said that his father sent waggons into the country with provisions. In March last he was in Scotland, but previous to going there he directed witness to look out at Durham March fair, held on the 31st of the month, for a horse which would suit his purpose, as he was then in want of one. Witness, in obedience to instructions received, attended the fair, and saw a horse belonging to defendant in Messrs. Hubbick and Peele's stables, Old Elvet, which witness thought would suit him, and for which £105 was asked. Witness had him taken out of the stables and trotted in the yard; and as he thought it was a sound, good-looking, useful animal, he ultimately bought it for £100. Before completing the purchase he distinctly told the defendant that he required the animal for general waggon work. His father never bought horses simply for traces. Defendant said that he remembered seeing plaintiff's horses in different parts of the county, and therefore knew the class required. The horse, which was six years old, was then purchased, the defendant giving a warranty that he was a good worker, and in every respect sound. This took place on Friday, the 31st March, the fair day, and on the following day (Saturday), in consequence of a complaint made by one of the waggoners named Gibson, witness went to inspect the horse in the stable, and noticed when it was turned over in its stall that it had a string-halt or lameness in the off hind-leg, which indicated unsoundness. On witness's father returning from Scotland a few days afterwards he was informed that the horse was lame. He said he was willing to keep it notwithstanding this defect if it was a good worker, because he never liked to return horses after they had been purchased. Witness did not see the horse tried in the shafts on the 18th April; but from what he was informed he instructed Mr. Thompson, of this city, who was plaintiff's veterinary surgeon, to write to Mr. Wright informing him of the horse's lameness. Subsequently from time to time witness noticed the same defect in the leg. To a certain extent it was worked in the traces as the leading horse. It was not worked after the 18th April, but sent to Mr. Thompson's livery stables. On Whitsuntide fair day, which was on the 6th June, witness heard that Mr. Wright was in the city; and being anxious to see him, he went into the fair and found him at the Waterloo Hotel door, and then informed him that

the horse was at Mr. Thompson's stables ; but this witness afterwards learnt was not true, as it had been removed in the meantime to plaintiff's stables until the fair was over. Witness, Mr. Thompson, and Mr. Chambers (plaintiff's solicitor) accompanied defendant to see the horse, which was brought out of the stable and trotted in the yard. Witness asked the defendant if he could see the lameness in the leg, but he would not give an answer for some time, and ultimately said it had got a strain. This witness denied, as it had not been hard worked.—By Mr. Seymour : My brother, Mr. James Fowler, and my uncle, Mr. John Fowler, were with me when I bought the horse, but they did not examine it minutely. I did not buy it until it was trotted once or twice. They did not notice anything at the time, but were pleased with its general appearance. Gibson complained of the horse being lame on its first journey, which was to Waterhouses, which is about six miles from this city. Having bought the horse myself, I naturally took great interest in it, and would have been glad if it had turned out well. I saw it every day after that. After the 18th April, I gave instructions to Mr. Thompson to write to defendant about the horse. I understand that notice was given to the defendant that the horse was to be sold at Newcastle. I believe it is now in Manchester. A few days ago I was in that town, and found the horse in Messrs. Carver's stables. I was not much surprised to hear that it had been in the shafts. They told me that it was one of the best horses they had. I do not know whether Mr. Peter Taylor, veterinary surgeon, Manchester, is a gentleman of great experience in his profession, but he was recommended to me as such. I employed him to examine the horse, and I met him, by appointment, at Messrs. Carver's stables. Before examining it, I told him where I thought the horse was lame. I do not think he examined the parts which I desired him, and I was not satisfied with his examination. He trotted the horse several times up and down the yard, and afterwards said that he thought it was sound, with the exception of a splint on the fore-leg, which, he said, was of little consequence.—By Mr. Edge : I know when a horse has got a string-halt.—By his Lordship : I did not agree with Mr. Taylor's opinion when I saw the horse in Carvers' yard. I noticed the lameness then, but it was not so bad as when the horse was in our possession. In my opinion, a willing eye could have seen the string-halt. I thought Mr. Taylor, from his examination, did not wish to see it. He could see by my conduct that I was not satisfied with his examination, which was not a careful one.—By Mr. Edge : When I purchased the horse, nothing was said about its being returned within a week if it did not suit.—By Mr. Seymour : I took my uncle to see the horse, because I took a fancy to it for its general appearance.

James Fowler, jun., said he had heard his brother's evidence, and agreed with it in every particular.

Robert Gibson said he was a waggoner, and had been six years in plaintiff's employ. The horse in question was given into his charge the same day it was bought, and at night he noticed some peculiarity in the left off hind-leg. He thought it was cramp. He did not know what string-halt was. The horse halted greatly on being put from one side of the stable to the other. On the following day witness yoked it in the traces, and took it to Waterhouses ; and noticing that it had a peculiar action, he mentioned the matter to Mr. Matthew Fowler. The load that day was about a ton and a half, which was a light load for two horses for that particular journey. The horse was not strained on the road. The next day Mr. Thompson saw the horse, and after examining it, ordered it not to be taken out for a few days, and he gave it some physic. Witness took it out on the following Thursday, and again noticed the lameness. The horse in question was always put in the traces, and a large one, which was christened Tichborne, was placed in the

shafts. On the 18th April witness, with the assistance of two men—named Coates and Craggs—tried to put the horse into the shafts of a one-horse cart, and when the saddle was put on it, the animal jammed witness against the stall. It was then taken outside, and being put into the shafts, plunged a great deal, and it was with the utmost difficulty that it was got in, and when the shafts were put upon it it made ready for a spring. Seeing there was likely to be mischief, the horse was taken out of the shafts again. Ultimately Coates succeeded in fastening one of the shoulder chains ; but as the horse plunged about so much, it was considered it would be dangerous to fasten the other chain. That was the last time it was tried. From the manner in which the horse acted, witness thought it had never been in shafts. As he had never seen it in shafts, he could not say it was a good worker. If it had been so, it could easily have been harnessed. Up to the 18th April it had always been worked in harness. Witness always had charge of the horse, and during the time it was out it was never strained.—By Mr. Seymour: Nothing was the matter with the horse except the action of the off hind-leg. It appeared a strong healthy animal. I know nothing about its history. Lameness was so plainly visible, any one could see it as the horse walked upon the road. The lameness got worse before we gave over working the horse. If we had continued working it, it would have become very unsound. It is rather a rough road to Waterhouses. The horse had rested three days before we attempted to put it into the shafts. We feed our horses very liberally.

His Lordship : Mr. Edge, can you make anything of this point about the shafts, seeing that the horse had only one trial, and was never tried again?

Mr. Edge : I am afraid I cannot make much of it.

His Lordship : Then that point is settled, and we have only now to consider the lameness.

In answer to the jury, witness said when it was in the traces at first it acted like a young horse that had never been yoked ; but when it got upon the road it behaved very well. It was never down, and never kicked over the traces.

His Lordship : The only point to be considered now is the string-halt.

George Coates, a waggoner in plaintiff's employ, said he had been accustomed to horses for thirty years. On the night of the 31st March he noticed something peculiar about the off hind-leg of the horse in question. He saw that when it moved about the stall it lifted the leg sharply up. This he noticed from time to time. 241 stones was not a heavy load for two horses on a good road. Mr. Fowler's horses are good strong animals.—By Mr. Seymour : When the horse was in the traces it did not do its work kindly. Sometimes it went easy. I thought it was a serious matter to have a horse like that cramped.

John Craggs, another waggoner in plaintiff's employ, gave similar evidence. —By Mr. Seymour : When I did not look I did not notice the peculiarity.—Mr. Seymour : That is very clever, no doubt.—Witness : The lameness was quite visible when the horse was out, and it gradually got worse.

Robert Ruddock, manager of the North-Eastern railway trolleys in this city, said the day the horse was bought and put in plaintiff's stables he noticed that it was lame in the off hind-leg. He thought it was cramp.

Robert Young, butcher, Claypath, said one morning last April the witness Gibson stopped his team opposite witness's shop-door, when he said, "Hollo, where have you got the fancy horse?" Gibson replied, "Oh! it is Tichborne." Witness then noticed that it was lame, and on the team returning home he told Gibson so. He replied "Oh, no." Witness noticed as it was going down the street that it had a peculiar action on the left off hind-leg, as

if it was cramp. He knew when a horse was not straight upon its pins.—Mr. Seymour: Then it was Tichborne you saw?—Witness: I saw that it was a fresh horse.

William Pallister, blacksmith and horseshoer, said that he saw the horse on the Thursday after it was purchased, and noticed that it had a string-halt in the left off hind-leg.—By Mr. Seymour: String-halt is natural to young horses. Some are born with it. He had seen foals with it. The horse in question was a nice, healthy-looking animal, and had a good coat.

John Hamburgh, waggoner, in the employ of Robson and Son, builders, of this city, said that he saw the horse in question in Hubbick and Peele's stables, on the fair day, the 31st March, and asked its price. He noticed that it was lame on the off hind-leg. He often saw the animal while Mr. Fowler had it, and noticed that the lameness remained.—By Mr. Seymour: There was nothing extraordinary about the animal, neither was it particularly handsome, but it appeared to be a useful carthorse. He never saw it work very kindly, but always keenly.—His Lordship: Keenness improves with time.—By Mr. Seymour: The lameness was more apparent when the horse walked than when it trotted. It was easy to be seen. It was just possible that Mr. Fowler might have bought the horse without seeing the lameness.

Richard Thompson, veterinary surgeon, of this city, said that he had charge of Mr. Fowler's horses. A complaint was made to him about the horse in question on the 1st April, and he examined it the next day for soundness. On moving it about in the stable he detected that it had a string-halt, which was an indication of unsoundness. He had it taken out into the yard, and examined its eyes and mouth, and found that the horse was right in every respect except the string-halt; and although it was apparent, it might be passed over by a person not accustomed to horses. He gave the horse some medicine. String-halt is an affection of the nerves, and might be caused by a strain. He should think that the horse had been suffering from it for fourteen months. He examined it again on the 10th April, when it had the same affection. Shortly after that date he received instructions from Mr. Fowler to write to defendant, but he did not do so until the 13th May. The letter was directed to Mr. Wright, Sowerby Grove, Thirsk. No reply was sent to that letter, nor was it returned by the post-office. The letter stated that the horse did not answer to the warranty, as it was unsound, and would not work in harness as guaranteed. He wrote again on the 1st June to the same effect, and stated also that the horse was at witness's stables at defendant's own risk. He wrote him another letter on the 6th June. On the 12th June he sent a man with the horse to Thirsk, and on the 29th he went himself and found it in Mr. Frances' stables. He had it brought out, and again made a minute examination, and noticed that it had still a string-halt. In consequence of a letter received from Messrs. Arrowsmith and Richardson, attorneys, he went to Thirsk, and paid Mr. Frances £6 3*s.* for livery of the horse. The horse was ultimately sold by auction at Peele's stables, Newcastle, and realised £48. The nett price Mr. Fowler received was £47 6*s.* 6*d.*—By Mr. Seymour: Plaintiff never arranged with defendant to try to sell the horse at Boroughbridge fair. I believe Mr. Wright inquired for the horse on the 5th June at my stables, but I was from home that day, as I did not expect him. I cannot explain why I did not write before the 13th May. I was present when the horse was sold at Newcastle. I afterwards saw the horse in the possession of Mr. Stobbs. I am not aware that Mr. Robinson, who buys horses for Messrs. Carver, purchased the horse of Mr. Stobbs for £85, with a warranty. Mr. Stobbs may have told me so; if he did I took no notice of it.—His Lordship: And yet you knew that this action was going on?—Witness: Yes; I only heard last week that the horse was sold for that amount.

Mr. Seymour : I produce the warranty,—"25th October, received £85 for bay horse, six years old, warranted sound, and a good worker." This is signed by Mr. Stobbs himself.—Witness (to Mr. Seymour) : Once string-halt, always string-halt, as it is incurable. It is a matter of opinion whether there is treatment for it. Professor Williams, of Edinburgh, is a recognised authority on veterinary matters. I do not know his work on string-halt, and have never read it. I am twenty-five years of age. I served my apprenticeship to a veterinary surgeon, and have practised on my own account for three years. I am a member, not a fellow, of the Royal College of Veterinary Surgeons.—Mr. Seymour : If there is no cure or treatment for string-halt, why did you give the horse medicine?—Witness : I did not give it to cure string-halt. It was seven drachms of aloes. I thought what I then saw might have been caused by a strain, and it might go away.—Mr. Seymour : If veterinary surgeons of great experience, as Mr. Greaves, Mr. Taylor, Mr. Stephenson, Mr. Temple, Mr. Peele, and others, were to state that the horse was at this moment free from string-halt, and was perfectly sound, what would you say?—Witness : I should still say that it had string-halt.—Mr. Seymour : And if all the veterinary surgeons of the North of England were of the same opinion as the above gentlemen, you would not believe them?—Witness : No.

Alexander Lawson said he was a member of the Royal College of Veterinary Surgeons, and practising at Manchester. He had studied in Edinburgh, and there obtained several valuable prizes for efficiency. It was with some considerable difficulty that he prevailed on Messrs. Carver to allow him to view the horse in question, and on examining it carefully last Wednesday morning he found it unsound and suffering from string-halt in the left off hind-leg. He was accompanied by another veterinary surgeon, Mr. Atcherley. At times the disease could not be seen at all.—By Mr. Seymour : A horse may be examined, and yet string-halt may be missed. String-halt is an involuntary contraction of the muscles. During the time he examined the horse it was perfectly apparent. If a horse is walked or trotted straight forward, it cannot be seen. The best test to find if a horse has string-halt is to move it about in the stable. The next best test is to take it out in the yard, and turn it round, and then back it. If string-halt exists, it will by this means always show itself. I met Mr. Fowler, by appointment, in Moseley Street, Manchester, and he told me in Carvers' office what he suspected was the matter with the horse. It is quite possible for string-halt to come in a night, but it is not usually the case. Mr. Fowler did not point out the particular leg.—Mr. Seymour : Can a strain be taken for string-halt?—Witness : String-halt is unmistakable in its symptoms, and incurable. To handle the leg is not a good test to find out the existence of the affection. I may be as obstinate as the last witness.

Robert Atcherley, a member of the Royal College of Veterinary Surgeons, and twenty-five years practising in Harrogate, gave similar evidence to the last witness, and added that he could not see how professional men could make a mistake, as the existence of string-halt in the horse was as clear as noon-day. When he turned the horse round, and the leg halted, one of Carvers' men, who stood by, said he had never seen the horse do that before. He told him to wait a bit, and he would see the horse do it again. In trotting, the animal did not show it. String-halt is decidedly latent.—His Lordship : I am surprised to hear you say that string-halt is latent or intermittent.—By Mr. Edge : Cramp is simply a cramp of the muscle. Some people call string-halt cramp.—By Mr. Seymour : If five thousand veterinary surgeons were to say that this horse had not string-halt, I still should say it had. It is a slight case, and does not much affect the animal's working powers.—By Mr. Edge : String-halt always gets worse.

Almond Hubbick, foreman to Mr. R. Thompson, said on the 12th of June he took the horse Ball to Thirsk, and on entering the town met defendant's son, and told him that he had brought back the horse Mr. Fowler had bought of his father. He told witness to take the horse to Mr. Frances' Hotel Stables, as their own stables were full, and said it would be all right. He did so, and after that saw the defendant.--By Mr. Seymour : Defendant never referred to Boroughbridge fair. I did not tell him that Mr. Fowler was coming by the next train.

Alderman James Fowler, the plaintiff, said that he was in Scotland at the time his son bought the horse, but he returned home the day afterwards. He gave his son orders to purchase a horse at the fair. In April, from what his son told him, he went to examine the horse in question, and noticed the string-halt. He gave Mr. Thompson orders to write to defendant, stating that the horse did not come up to the warranty. On the 6th June (Whitsuntide fair) he saw defendant's son, and told him that the case was now in the hands of his veterinary surgeon, Mr. Thompson, and defendant was to consult him. Witness received a letter from defendant on the 9th June, which he handed to his solicitor, Mr. Chambers, and gave instructions that the horse was to be sent to Thirsk, as he considered it was unsound. He went to Manchester last Wednesday to see the horse, but could not, as it was out working.—By Mr. Seymour : I do not remember Carvers' manager saying that it was one of the finest horses in their possession ; but he said it was a good worker. I have never seen the defendant. When I saw defendant's son he said he wished to know what was best to be done. I did not say that I wished to know what was best to be done.—By Mr. Seymour : Defendant's son never spoke to me about sending the horse to Boroughbridge fair to try to sell it; but he said he would take the horse to the fair, and they would divide whatever loss there was between them. I told him the matter was now out of my hands, and that if he wanted to see Mr. Thompson he could do so.

This closing plaintiff's case, the following witnesses were called for the defence :—

Mr. Wright, the defendant, said he was a road surveyor at Sowerby, and occasionally dealt in horses. He bought the horse in question on the 30th March last of Mr. Coates, at Berwick, who was then leaving his farm. It being sound, he paid £91 10*s*., and 5*s*. duty for it, and had no warranty with it. The next day he sold it with a warranty. Both Mr. H. Peele and Mr. Temple examined it carefully that very day, and pronounced it sound. When Mr. Matthew Fowler bought the horse, he told him that if he found anything the matter with it within a week he was to return it, and he should have his money back. It was not until the 2nd June that he received a complaint about the horse. It was communicated in a letter from Mr. Thompson. He got no previous letter from that gentleman. He came to Durham on the 6th of the same month, went to Mr. Thompson's stables, and was there informed by one of the men that the horse had never been there. He, however, saw the horse, and examined it both in and out of the stable, and could see no sign of lameness or string-halt about it. He never said they had strained it. He never agreed to take the horse back, and he never authorised his son to make any such arrangements. When the man brought the horse to Thirsk, he said Mr. Fowler was coming by the next train, and then asked if he could put the horse in his stable. Defendant told him no. He never ordered the man to take it to Mr. Frances' stables. He received no notice that the horse was going to be sold at Newcastle ; but on the 16th June he received a notice stating that the horse was going to be sold within a week, but no time or place was stated. On the 14th of the present month he saw the horse at Carvers' stables in Manchester. It was then going out in a trolley.—By Mr.

Herschell: I never saw the horse in harness. I gave a warranty from my own view of it, and the recommendation I got of it. When I saw Mr. Fowler on the 6th June, he never complained of the horse's leg.

George Wright, son of defendant, deposed to the horse being sound when he sold it to Mr. Matthew Fowler, and said whilst it was in the fair he refused to take less than £100 for it. Never until this day did he know that Mr. Fowler complained of the horse being unsound. When witness saw it on the 6th June he could see nothing wrong about it. On that day he saw Mr. Matthew Fowler, who acknowledged that it had been very little used, and said that his father had not seen it. Witness told him that his father (the defendant) thought that they should have found out before the expiration of two months what was the matter with the horse, and that they had better keep it. Mr. Fowler replied that he did not know what to make of it. Witness advised him to try to sell it at Boroughbridge fair, and he offered to help him. At the same time he gave him to understand that during the last few months, owing to the slackness of trade, the value of horses had greatly diminished, and that he would in all probability be something like £10 out of pocket. The man, on his own account, took the horse to Mr. Frances' stables.

Joseph Wetherell, who, in March last, lived as farm servant with Mr. Coates, at Ingleby, Berwick, said that gentleman bought the horse Ball when it was two and a half years old, and witness broke it in. It was after that driven in shafts. It had no signs of cramp or string-halt when it was sold on the 30th March.

Henry Peele, veterinary surgeon, practising at West Hartlepool, said that he was at Durham fair on the 31st March, and saw the horse in question. Being then in want of a carthorse he examined it very carefully, and finding it sound, he offered £90 for it, which was refused, because Mr. Wright said it had cost him more than that the day before.—By Mr. Herschell: I had the horse walked and trotted. I examined its legs and found no peculiarity about them. It had remarkably good action, and was, in "horsey parlance," a "good goer all round." String-halt may be severe or light. I am satisfied it did not exist when I examined the horse. A man may overlook a string-halt if he did make a careful examination. I would not have bid for the horse if it had shown any symptoms of string-halt.—By his Lordship: I do not think there is such a thing as intermittent string-halt.

John Temple, farrier, Chester-le-Street, said he was at Durham fair on the 31st March, and at the request of Mr. M. Fowler's brother examined the horse Ball, and he thought it was one of the best-looking horses he had ever seen.

Lawrence Stobbs, horse-dealer, Newcastle, said that he bought the horse in question of Mr. Peele for £54. He afterwards sold it for £85 to Mr. Robinson, and gave a warranty with it for soundness.—By Mr. Herschell: I never thought or said it had the cramp. Two gentlemen came from Durham to see it, and they asked me what I would take for it. I replied that it would be a big price, as it was entered for Newcastle Agricultural Show. Before Mr. Robinson got it it was sold to an old gentleman, who returned it because it was too flash for him, and had too much spirit.

John Robinson said he had been horse buyer for Messrs. Carver, the great carriers, for the last ten years. He bought the horse in question of the last witness for £85. He examined it very carefully before he made the purchase, and in his opinion it was a sound animal. It had no symptoms of string-halt.—By his Lordship: I bought it at Newcastle fair in October.—By Mr. Herschell: The only peculiarity in the left off hind-leg is that it has better action than most horses' legs, and I should like to buy some more like it.

Thomas Greaves, formerly President of the Royal College of Veterinary Surgeons, said for the last forty-three years he had been Messrs. Carver's veterinary surgeon. On the 1st of November he saw the horse in question and examined it in a most careful manner, and he considered it to be a perfectly sound horse, and had good action in all its limbs. Its left off hind-leg was exactly the same as the others. He examined it again a few days ago, and it was then, in his opinion, a sound horse.—By Mr. Herschell: I daresay I may have passed a horse that was unsound. Veterinary surgeons are not infallible.—His Lordship: It is your witnesses that say they are not infallible.

Clement Stephenson, veterinary surgeon, practising at Newcastle, said on the 14th of February he saw the horse in question at Manchester, and after making a careful examination his conviction was that it was perfectly sound. If it was suffering from string-halt he must have discovered it.

Peter Taylor, veterinary surgeon, Manchester, said at the request of Mr. Matthew Fowler he examined the horse in question very carefully at Carvers' stables. Mr. Fowler repeatedly pointed to the leg as if there was some hidden disease. Witness told him that if it was a case of dispute he must stand away and allow witness to form an honest opinion, and he would give it him. He put the horse through a crucial examination, and the result was that he found it sound. He examined the horse again yesterday afternoon, and after re-testing it he could detect no disease whatever.—By Mr. Herschell: I was subpœned by Mr. Wright last Thursday, and I was quite annoyed when I received it. I do not like this business, and I have no right to be here.

The foreman of the jury here announced that they had heard enough, and gave a verdict for defendant.

His Lordship: Before the last witness was called I thought that the plaintiff had no case, and that it was useless to proceed further.

Army Veterinary Department.

Gazette, April 20.

VETERINARY DEPARTMENT.—Veterinary-Surg. Walter Seymour Adams, Royal Artillery, to be Veterinary-Surg. of the first class; Daniel Chambers Pallin, gent., to be Veterinary-Surg. on probation; Lieut. Joshua Arthur Nunn, from the Royal Monmouth Militia, to be Veterinary-Surg. on probation.

Veterinary-Surg. J. H. Cox, 4th Light Cavalry, India, is permitted to proceed to Europe on furlough for six months.

Veterinary-Surg. A. Bostock, R.A., has leave of absence in England from Jan. 25th to July 24th.

Veterinary-Surg. J. B. W. Skoulding, R.H.A., has leave from date of embarkation to England to appear before a medical board.

The following movements of veterinary surgeons have been ordered in India: viz., J. Burton, R.H.A., from Umballa to Meerut; A. E. Queripel, R.H.A., from Meerut to Umballa; S. Gillespie, R.H.A., from Meerut to Cawnpore; J. Mills, R.H.A., from Umballa to Allahabad. H. Thomson, staff, doing duty with R.A., has been moved to Muttra for duty with the 10th Hussars.

RABIES IN AMERICA.—Spitz dogs in America are doomed, owing to their savageness and liability to Rabies. In Williamsburg, Virginia, a slaughter of nearly every Spitz in the city has been begun; and as there are more than 4,000 of the breed in the neighbourhood, hundreds are being shot every week. The frequent cases of dog-bite have led to this decision.

Obituary.

We have to record the demise of Mr. Edwin Townsend, M.R.C.V.S., of the United States Cavalry. Mr. Townsend graduated April 22nd, 1867. The death is also announced of Mr. P. B. Phillips, M.R.C.V.S., London, who graduated April 24th, 1866.

We regret to have also to report the death of Mr. R. R. Hutton, M.R.C.V.S. Mr. Hutton was in his sixtieth year, and died at his residence, Toppesfield Hall, Essex. For a number of years he carried on one of the largest practices in that county, and in 1869 he retired from the profession, devoting the later years of his life to agricultural pursuits. In critical cases, however, his assistance was often sought, and was always readily given. His loss is greatly felt by a large circle of friends, by whom he was valued and respected.

Mr. Charles Morgan, M.R.C.V.S., Ross, Herefordshire. His diploma bears date March 17th, 1841.

Correspondence, etc.

THE FELLOWSHIP DEGREE.

To the Editor of the Veterinary Journal.

Sir,—I experienced much pleasure in reading your editorial in the *Journal* for April, on the subject of Fellowships—which degree can now be conferred by power of a Supplemental Charter lately granted to the Royal College of Veterinary Surgeons ; and I trust your excellent remarks will have their due weight with every one who may be either directly or indirectly concerned.

At a special meeting of the Council held on the 20th February last, it was decided that each candidate, other than a professor or ex-professor, should be required to produce a certificate of graduation in arts at a University, or a certificate of liberal education after an examination by the College of Preceptors. I believe that a higher standard of education is absolutely necessary ; but such a preparation as the above will take up much time, and be attended with great expense. So the question naturally presents itself, What will be the inducement or reward ?

I regret to say there are no highly remunerative or distinguished positions to be got, as in the sister profession ; and I am afraid the public will not sufficiently appreciate degrees conferred upon members of our profession, unless they are officially recognised. I therefore consider that the few Government appointments that are open—such as inspectorships, etc.—should be alone reserved for "Fellows" of the College as vacancies occur. I think this would be no more than fair towards those who may be candidates for the Degree, as it will be only by long and severe study that they will be enabled to arrive at that higher standard of proficiency ; and I hope the ruling powers will give them every encouragement and protection, which will aid the grand object they have in view—viz., the advancement of veterinary science.

With regard to veterinary surgeons in the army, I think it should not be left as an optional matter ; as those gentlemen have plenty of time to work up for an examination in classics, mathematics, and all professional subjects that may be required in order to take up the Degree of Fellowship ; and this they should be compelled to have before being promoted to the

higher grades in the Department. And as it is stated that a new and improved scheme has been for some time before the authorities, perhaps a clause to the effect I have mentioned may possibly be introduced.

"VEHO."

PRIVATE PRACTITIONERS AND VETERINARY REGULATIONS OF THE ARMY.

To the Editor of the VETERINARY JOURNAL.

SIR,—The following quotations from the Veterinary Regulations of the Army are promulgated for the information and guidance of veterinary surgeons in private practice who may have the honour, and perhaps the misfortune, to afford professional aid to Her Majesty's troop horses in the event of a military veterinary surgeon being out of reach, which frequently happens on the line of march. This measure is adopted to show the civilian exactly how much is required of him by, and what he has to expect from, Government: and let it be understood that we present our suggestions with kindly feelings.

He is informed that his charges, which are firstly subjected to regimental check, and afterwards to departmental taxation, must be "fair and moderate"—the merest *quid pro quo*: that when summoned to a patient through a misconceived exaggeration of the nature of the ailment by those in command, he must be sufficiently magnanimous to demand little and expect less, because he ought not to be called in unless the case is out of the power of the farrier-serjeant, and the life—not the usefulness—of the horse in danger. By not adhering with unequivocal precision to instructions when framing his bill, it will be returned as often as it requires correction; and when this unfortunately occurs, he is asked not to "cut up rough," nor fly in the face of Red-tapeism, but quietly to give a detailed statement of the case and its treatment, including the medicines supplied, noting the distance travelled and the time occupied in attendance. These are particular points, having, of course, great weight in determining the amount that shall be awarded for services rendered. It is very requisite that the interests of Government should be protected by its servants in authority, and if civilian veterinary surgeons object to conform to the rules that are laid down succinctly for their guidance, they cannot fairly object to a decision that can reduce their account twenty-five per cent. Mr. Civilian charges a sum for a visit, an examination, an opinion, a dressing, and a bottle of tincture; and the bill, not being constructed according to the letter of the law, is returned to Mr. Military, who submits the questions that are likely to elicit from Mr. Civilian the *necessary* answers *only*. They arrive supplemented with a profusion of unsolicited jaunty sarcasm—*not necessary*—and opinions that reflect uncomfortably, though harmlessly, on his brother of the army. He should, however, bear in mind that *we* cannot pour out the phials of *his* wrath, nor even of our own, upon the sainted head of Government; and unless we take much time and trouble to explain away the official whys and wherefores which rankle in his breast, we must calmly put up with unmerited salvos of professional invective. Compelled "*by order*" (a term unintelligible in civil life) to ask, "Was the life of the horse in danger?" Mr. Civilian, instead of replying "No," says, "I never said the horse's life was in danger, nor do I see the object in asking, and I may add that I hardly think it fair my time should be taken up in answering many of these questions, which are of a puerile character, and I should not have thought would have emanated from a professional man." This quotation is one only of many which simulate it from various sources,

and it is hoped that the publication of the annexed Regulations will obviate a repetition of such censorial ebullitions, or, at least, moderate their tone.

"VETERINARY REGULATIONS, Section ii., Articles 35 to 37.

"35. Officers commanding detachments or batteries out of reach of a military veterinary surgeon should not call in a private practitioner unless the practical knowledge of the troop or battery farrier-serjeant is unequal to the proper treatment of the case, and the life of the horse is considered to be in danger. On such urgent occasions recourse should be had to the practitioner of highest repute in the neighbourhood.

"36. The private practitioner will send in his bill immediately his attendance has ceased. The bill should be made out, in duplicate, on War Office Form No. 1682, with a full detailed statement of the case and its treatment, including the medicines supplied. On the back of the duplicate bill the private practitioner will state the distance travelled, and how long he was detained in attendance on the case. The bill will be certified by the officer commanding the detachment or battery, and forwarded by him to the officer commanding at head-quarters, and when checked by the veterinary surgeon attached to the regiment, will be transmitted for the approval of the Principal Veterinary Surgeon. When so approved the amount may be charged in the Regimental Pay List, if supported by proof of payment.

"37. In order to avoid the inconvenience which arises from time to time in settling the bills of civil veterinary surgeons, the officer commanding will take care that whenever the services of a private practitioner are required, he is informed that, in case of objections being raised to the charges he may make for his professional attendance, they will be submitted to the examination and decision of the Principal Veterinary Surgeon, and that his award must be considered as final by the practitioner."

I beg to remain,

Yours faithfully,

R. POYSER, M.R.C.V.S.

York Barracks. (The Carabineers.)

DISEASE OF THE BRAIN IN AN OX.

To the Editor of the VETERINARY JOURNAL.

SIR,—I take the liberty of sending you a brain and something else, but I scarcely know what. The history of the animal from which they were taken is as follows :—

About two months since, I was called upon to attend a bullock which the owner thought had Foot-and-mouth Disease. He was noticed the previous day to be standing apart from the others, with his tongue hanging out of his mouth and a discharge of saliva therefrom. He was much the same when I saw him ; there appeared to be partial paralysis of the lower jaw, with a flow of tears from the left eye. Thinking there was possibly some injury to the tongue or jaw, I made a careful examination, but could detect nothing wrong,—no evidence of injury ; the tongue appeared to have plenty of strength when handled, but when left alone would protrude two or three inches from the mouth. The animal continued much in the same state for two months ; he could eat pretty well, but sometimes "quidded" his food ; the muscles on the left side of the head became somewhat atrophied, and he would sometimes walk up against the walls of the box, as though in a semi-conscious state. I gave an opinion that some injury had taken place, or that possibly there was a tumour or other disease in the brain ; and as there

was no improvement in the symptoms, and the animal was in fair condition, recommended that he should be sent to the butcher. I may mention that the only treatment I adopted was the application of stimulating liniment to the side of the head, and some tonic medicine—Nux Vomica and Gentian for a few weeks. Unfortunately, I was not present when the animal was dressed, but the butcher handed me the brain in rather a damaged condition. You will see that one side appears to be diseased. He also gave me the enclosed specimen, which I must call a calcareous humour, for want of knowing better what it really is, and which, he says, he took from the top part of the heart. Now, could the latter have had any connection with the symptoms from which the animal was suffering? and if so, in what way? He appeared perfectly healthy, except in what I have described, and I never for a moment suspected anything wrong in the chest. By giving me your opinion of this case you will very much oblige

Your obedient Servant,

Havering, Essex. J. H. BENNETT, M.R.C.V.S.

[The brain was in such a damaged condition that nothing satisfactory could be derived from an examination of it. There was some blood clot in the *Pia mater;* but if the animal was poleaxed in the ordinary way, this might have been the cause of the hæmorrhage. If it was not killed in this manner, then in all probability the clots would produce symptoms of the kind enumerated. The bullock was undoubtedly suffering from a brain affection. With regard to the tumour, it appears to be an enlarged bronchial gland containing calcareous deposit, which was probably at first of a tuberculous nature, but subsequently underwent degeneration. It could have no relation to the brain symptoms.]

THE CHAIN SAW IN VETERINARY OBSTETRICS.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I hope you will not think me presumptuous in writing to you, but as I am waiting until your work on "Veterinary Obstetrics" is completed before purchasing it, I have not seen any of the published numbers; consequently I do not know what you may recommend in the presentations to which I shall allude.

As I have not read or heard of any one using the chain saw in obstetric practice, and as I fear the value of the same in some presentations should not be known to you, this must be my excuse for writing to you on this subject.

I may say that two fœtal presentations which used to be difficult to me are now easily overcome by using the chain saw.

I allude to those cases in the mare, where we have the fore-legs of the fœtus presented with the head turned back. In this position I have always found it difficult to place the fœtus in position for delivery, owing to the length of its neck, as well as that of the pelvic cavity of the mother. I now, instead of taking off the fore-legs of the fœtus—which requires great force—pass the chain saw round the neck and separate the head, having previously inserted a hook in the neck. I then cord the legs, push them back, and take out the head, then draw forward the legs, and delivery is soon accomplished.

I think in those cases where we have only the tail presented, that the chain saw will be of value to separate the leg at the hip-joint.

I remain, yours respectfully,

J. HOOLE, M.R.C.V.S.

Sleaford, *April 4th*, 1877.

[In the eighth part of "Veterinary Obstetrics," just issued, at page 527 it will be found that we have drawn attention to the value of the chain saw in embryotomy, and especially in dividing bones. The instrument was first introduced to notice for this purpose by the Swedish veterinary surgeon Sjöstedt, in his book on Veterinary Obstetrics—*Handbok i Förlossnings Konsten för och uppjödara af Husdjur.*

We heartily thank our correspondent for his kindness in endeavouring to make our arduous task perfect. We trust that, when finished, it will be found to be the most complete work on this important subject which has ever been attempted in any language.

May we ask what is the length, breadth, and thickness of the saw Mr. Hoole uses ?]

ANSWERS TO CORRESPONDENTS.

G. GRAY.—The diseased uterus is being prepared for microscopical examination. The case will appear in our next number.

J. MCKENNY.—All the newly elected Fellows have been in practice for at least fifteen years, and all were members of the Royal College. We fear that very many of them would object to be termed mere "theorists"; indeed, the list includes, or is solely composed of, "practical" men—whatever that may signify in the estimation of some people. We fancy that all the elected Fellows are fully as competent as Mr. McKenny to practise and maintain the reputation of their calling. No advantage to himself, the profession, or the public, could be gained by the insertion of his letter. The election is *un fait accompli;* if the list does not, unfortunately, include Mr. McKenny's name, we hope it soon will. The road is now open to all aspirants who may desire to test their "practical" and "theoretical" knowledge—for both are essential to the obtainment of the Fellowship Degree.

COMMUNICATIONS from Professor Walley, A. H. Thomas, C. W. Gregory, W. A. Cox, G. W. Bates, J. Gerrard, A. Lawson, R. Gibbs, S. Knott, A. E. Macgillivray, and others, will appear in our next.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from J. Kirk, Edinburgh; J. A. Going, New York; "Veho"; J. Gerrard, Market Deeping; J. Dowling Allman, London; "A Victim"; Professor Smith, Toronto; G. W. Bates, Toronto; C. Stephenson, Newcastle-on-Tyne; A. H. Thomas, Dublin; W. H. Coates, London; W. A. Taylor, Manchester; G. Gray, Bakewell; S. Knott, Shorncliffe; A. E. Macgillivray, Banff; E. Dacre, Altrincham; L. J. Van Der Harst, Utrecht; R. Gibbs, Taunton; A. Lawson, Manchester.

BOOKS: *Bulletin de la Soc. Centrale de Méd. Vétérinaire; E. Decroix,* Société contre l'Abus du Tabac; *E. Dele,* L'Inspection Sanitaire du Bétail dans le Royaume-Uni.

JOURNALS: *Recueil de Méd. Vétérinaire; Archives de Méd. Vétérinaire; Wochenschrift für Thierheilkunde und Viehzucht; Annales de Méd. Vétérinaire; Der Thierarzt; Journal de Méd. Vétérinaire et Zoötechnie; Live Stock Journal; La Veterinaria Española; Revue de Méd. Vétérinaire.*

NEWSPAPERS: *Times; Toronto Mail; Melbourne Argus; Montreal Daily Witness; Tamworth Herald; Journal of the National Agricultural Society of Victoria; Cork Examiner; Montreal Evening Star; Scientific and Literary Review; Pall Mall Gazette; Melbourne Medical Record; North British Agriculturist; Lincolnshire Chronicle; Farmer; Agricultural Gazette; Yorkshire Post; Montreal Herald; Mark Lane Express.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

JUNE, 1877.

TRAUMATIC TETANUS CURED BY NITRITE OF AMYL.

BY A. LAWSON, M.R.C.V.S., MANCHESTER.

THIS remedy being new, I think the following particulars will be interesting to the members of the veterinary profession, and I hope some of them will give it a trial.

On the 1st of February I was hurriedly called to see a valuable brown carriage-horse, six years old, belonging to a gentleman in one of the suburbs of Manchester. The animal had been injured by a piece of glass, which penetrated the outer wall of the near fore-foot some three weeks previously; and little or nothing having been thought of this, it was treated as a simple wound, being poulticed for a few days and afterwards the tincture of benzoine applied several times. The owner imagined it was healing all right. However, when I saw the horse, I immediately diagnosed the case to be one of Traumatic Tetanus. *Symptoms:* a flow of saliva from the mouth; nostrils dilated; nose protruding; muscles of the back particularly rigid; tail elevated; bowels constipated; breathing accelerated; pulse 48; and the jaws slightly movable,—so much so that I could open the mouth about three inches; the

membrana nictitans was pushed more or less over the eyes, on slightly elevating the head. The horse had eaten nothing that day, and the appetite was entirely gone. After considering the case well, I determined to take the opportunity of at once relieving the bowels, by administering an aperient, and accordingly gave spirits of turpentine, ℥ij.; linseed oil, Oj. I had the box darkened, as the horse was very nervous, and strictly charged the groom to keep him perfectly quiet and allow no one to go near him. *Diet:* well-boiled meal gruel mixed with bran.

February 2nd.—Tetanus more marked; flexor and extensor muscles being equally and strongly contracted, the whole frame in a state of tension; pulse 48. The patient showed a desire for food, and sucked a quantity of gruel and bran, although the muscles of the jaw were more rigid than the previous day, and I could barely open the mouth an inch. The bowels, I was pleased to learn, were acting. It being impossible to administer medicine in the usual way, I gave him ℥iv. chloral hydrate *per ano*, dissolved in a pint of warm water, using the funnel-shaped enema tube, which does not produce the shock to the system which the ordinary enema syringe does, and in my opinion is to be preferred. About two hours afterwards, the tetanic symptoms not having abated, I resolved to try the nitrite of amyl, which is a powerful nervous sedative. Its action had been already tried on the rabbit and frog, and latterly, in a few cases, on the human subject, with success, by Dr. Richardson, of London. Not knowing the dose for a horse, I injected xx. minims subcutaneously, and gave the same instructions as to quietude. In the evening the muscles of the jaw were more relaxed, and the animal sucked gruel and bran eagerly. I repeated the nitrite of amyl, xx. minims, *with marked benefit.*

On the 3rd, the tetanic symptoms were more aggravated; the pulse was still about 48; the bowels acting slightly; appetite diminished. I repeated the dose of amyl, which seemed to give momentary relief. In the evening the patient was evidently better, though the appetite was indifferent; the pulse was about the same. Owing to my ignorance of the exact effect of the amyl, I was

afraid to administer more, so I gave him an enema of the hydrate of chloral, ℥ss. in a pint of warm water. From the 4th to the evening of the 8th he remained much the same, partaking of meal gruel and bran; and I continued to inject the amyl twice a day. Early on the morning of the 9th I was summoned hastily to see the horse, which was said by the messenger to be down in the box and dying. I found him stretched out on the floor, perspiring profusely, and every muscle of the body appeared to be spasmodically affected; the nostrils were dilated; the breathing very much accelerated; and, at the first glance, I feared the worst. As it appeared to be a case of life or death, I ventured to inject an increased dose of the nitrite of amyl, and accordingly gave him xlv. minims. The effect seemed to be marvellous, as the patient, with slight help, in five minutes afterwards rose to his feet, micturated, and began to take some bran and gruel; the muscles of the body being much more relaxed. During the remainder of the day he progressed favourably. From the 9th to the 21st I injected subcutaneously, every day, xlv. minims of amyl, with increased benefit each time, discontinuing it on the 22nd. Every day afterwards he gradually but slowly improved, and is now being occasionally used by his owner.

EYE LESIONS.

BY PROFESSOR WALLEY, VETERINARY COLLEGE, EDINBURGH.

I OBSERVE in the *Veterinary Journal* for March a communication from Mr. Robertson, of Kelso, in reference to a case of Corneal Dermatoma in the ox. As he justly remarks, these cases are rare; and during a long experience I have only met with two specimens of this abnormality. One of these specimens was given to me by Mr. Lancelot Barker, of Skelton, then a student at this College. The other I obtained at the Edinburgh abattoir. The latter I exhibited to the members of the Scottish Metropolitan Association, and I have much pleasure in forwarding a very beautiful pencil sketch of it—made at the time by Mr.

Vaughan—for publication (fig. 9). Clinically, these growths are not of much consequence; they are more interesting as showing the close relation which exists between the conjunctival and corneal structures and the skin.

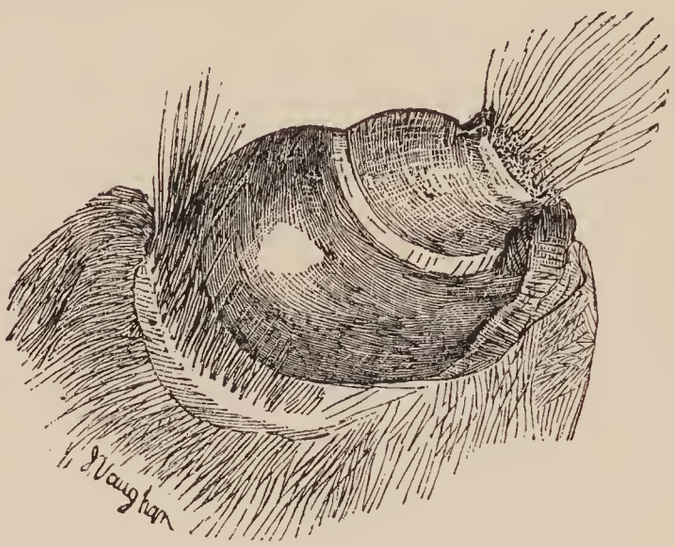


FIG. 9.
Corneal Dermatoma.

I also forward for publication (if you think them sufficiently interesting), rough pencil sketches of two other uncommon oph-

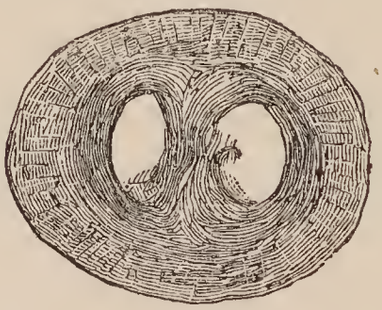


FIG 10.
Iris of a cow. Laceration of free border and adhesion of ruptured portions to each other. The two light and somewhat oval spots represent the portion of the pupil uncovered by the torn iris.

thalmic lesions. One (fig. 10) is a representation of laceration of the iris, with adhesion of its free borders, the adherent portions dividing the pupil into two nearly equal parts. The sketch is taken from the eye of a cow, in which animal the lesion was bi-lateral. As illustrating the well-known saying that rare cases seldom occur singly, I may mention the fact that I detected the same lesion (at about the same time) in the eye of a horse which was under the care of my colleague, Mr. Baird, for lameness.

Both these cases, I am of opinion, had originated either in

direct injury, or from adhesion of the free borders of the iris, as the result of inflammation.

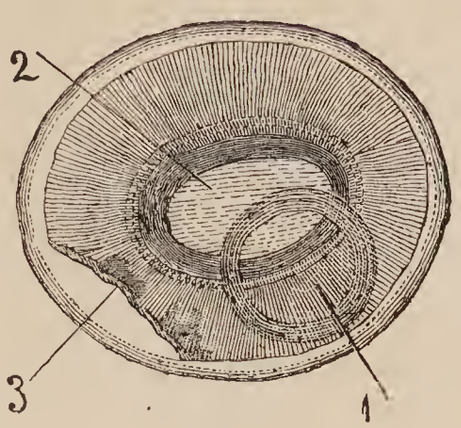


FIG. 11.

Eye of a cow. 1. Displacement of lens into the anterior chamber; 2. Pupil opaque and occluded by thickened hyaloid membrane; 3. Rent in attached border of iris.

The other sketch (fig. 11) illustrates a case of dislocation of the lens, which I recently brought before the notice of the members of the Scottish Metropolitan Association, and the particulars of which were published in the *Veterinary Journal*.

OBSTETRIC CASES.

BY C. W. GREGORY, M.R.C.V.S., BRISTOL.

PARTURIENT HÆMORRHAGE.

THE subject of this case was a heifer in her first calving; she had labour pains for two days, and for eight hours previous to my seeing her they were severe. The vagina was swollen and dry, barely admitting the hand. I found it a breech presentation, and the calf dead. I pushed the calf forward, and endeavoured to recover one hind-leg, but there was not sufficient room to raise the foot. I then fastened a hook into the pastern, and again pushed the calf forward, and succeeded in bringing back the foot; securing it with a cord, I did the same with the other foot. The heifer being exhausted, I gave her a stimulant, and then put three men to pull away the calf, but failed to get the breech into the pelvis. My advice was not to delay the operation, but to employ steady and continuous traction. This was carried out by the three men for about forty minutes, when

the calf came away, and was followed by considerable arterial hæmorrhage, which proceeded from laceration of the infero-lateral portion of the *os uteri* and vagina. I had cold water sprinkled over the croup, and a towel wetted with cold water was passed along the vagina into the uterus. The bleeding, however, continued, and in about ten minutes I removed the cloths; but finding the placental membranes had been between them and the injury, I re-applied the cold-water cloth—carefully placing it on the injured part; in this way I succeeded in stopping the flow of blood. After giving the heifer a dose of brandy, and clothing the body well, I left her, with orders to continue sprinkling cold water as before for thirty minutes, and repeat it should bleeding recur.

The following day the heifer looked cheerful, was comfortably warm, had eaten a little hay, and was chewing her cud. I was told that she had cleansed, and had also expelled the cloth about two hours after it was applied; but there was no recurrence of bleeding. She steadily progressed, and entirely recovered without any further interference.

Protrusion of the Fœtal Limb during Gestation.

The subject of this case was a Guernsey cow, about ten years old. She was at grass, and due to calve in four weeks. She appeared to be in good health and free from pain, notwithstanding that the hind-leg of a fœtal calf protruded about six inches beyond the vulva. I passed my fingers into the vagina, but finding no appearance whatever of the approach of parturition, I advised no interference except giving a mild aperient; but should any labour pains appear, I was to be informed. I saw her at intervals during the next fortnight, but she continued well. The calf's leg had decayed and dropped off. I still refrained from interference, and when the termination of gestation had arrived, she calved without assistance, and afterwards did well.

[This is, so far as our experience and reading go, an extraordinary and unique case, and, from several points of view, difficult of explanation. Information as to the condition of the calf when expelled, as well as that of the fœtal membranes, would be valuable.]

VETERINARY TOXICOLOGY: LEAD POISONING IN THE HORSE.

BY JOHN GERRARD, M.R.C.V.S., MARKET DEEPING.

On the 6th of March last I was called by Mr. J. W. Greswell, M.R.C.V.S., Peterborough, to assist him in investigating what he thought was a case of poisoning of two cart-horses, one of which was dead, and the other not expected to recover.

On arrival, I found a fine five-year-old mare, dead about thirty-five hours, of which he had made an examination, but without being able to say definitely what was the cause of death, as the *post-mortem* had been made late on the previous evening, which was dark.

The other, an aged cart-horse, lay extended on his side in the crewe-yard, at times attempting to get up, perspiring and panting; or, as the owner, Mr. Edward Cave, Newborough Fen, expressed it, "blowing like a broken-winded horse." He was quite unable to arise, or to stand when lifted, and seemed paralysed in his fore-extremities. Pulse 70, and full; breathing very fast, with nostrils much distended, showing the mucous membrane injected and dry; the buccal membrane being moist, from a quantity of frothy saliva dribbling from the mouth, as if the creature were salivated; bowels constipated, and what excrement was removed by hand was coated with mucus; bladder distended as felt *per ano;* temperature 101° Fahr. This one had not been affected until after the death of the mare, which confirmed his suspicion of poison; but as no distinct traces of any toxic agent were observed, he was at a loss to account for it, and rather suspected the administration of antimony. From the known physiological properties of this drug on horses and cattle, and the difficulty of procuring it in poisonous doses from any chemist, and also from the symptoms exhibited by the horse yet living, I could not believe that antimony was the cause.

Taking the symptoms exhibited by both animals into account, and the absence of distinct traces of irritation of the stomach and intestines in the mare, as also other peculiarities in the

appearances observed, I came to the conclusion that lead was the toxic agent.

On inquiry, we found that, about a week previous to the occurrence, some alteration had been made in the water supply —a pipe being attached to a pump a little distance from the crewe-yard to fill the trough therein. This trough, too, had only been put down about a fortnight before, and was newly painted over with red lead. It was of large dimensions, as it had to supply four departments into which the crewe was divided by strong paling, with this trough placed in the centre. In fitting up the piping (which was of iron), a good deal of white lead had been used about the joints; and when the trough was emptied of water, we could pick a quantity of the white lead out from below the plate attached to the pipe at the bottom of the trough; and all around the place where the water flowed into the trough, the paint had been gnawed from the bottom, in the horses' compartment of it.

The end of the pipe at the small trough attached to the pump, had a quantity of white lead about it when examined; and the execution of the work seemed altogether so carelessly done, as to warrant the inference that some of the white lead used in the fitting and soldering might have dropped into the pipe, and been forced into the trough in the yard. Another circumstance I may mention here, relating to the quality of water used, as a certain statement has been made by other parties, which I shall notice hereafter. The water in the pump was what is known as "hard water"; but as the supply had run short, it was supplemented by rain, or surface water, from a cask for several days before this occurrence.

The owner and horsekeeper admitted that the whole team of four horses had not done well for a few days previously; they had fallen off in their appetite, and appeared to perspire readily. The prominent symptoms, when first observed by these men, were weakness and inability to control their movements, with profuse perspiration, and a straddling and stumbling gait. The mare seemed as if weak across the loins, and used her hind-legs very imperfectly; while the fore-limbs of the horse were paralysed, and he knuckled over at the fetlocks when he

attempted to rise. He died on the morning of the 7th, and the following were the appearances twelve hours after death :—

The muscular system was blanched and bloodless, and the blood was everywhere fluid, with no tendency to coagulate on exposure. The most marked appearances on laying open the abdominal cavity, were black spots and streaks on the mesentery and intestines, which, when closely examined, were found to be ecchymoses of the fluid venous blood, and which, in some of the viscera, had a marked tendency to decomposition. They were principally confined to the small intestines and mesentery—the large intestines being only slightly affected. The stomach contained a small quantity of food, but little fluid ; and the mucous membrane had a puffy, swollen appearance, with several congested patches towards the pylorus. The mucous membrane of the small intestines bore traces of increased vascular action, while that of the colon and cæcum were highly inflamed. In them we found a number of pieces of sheet lead, and a few of zinc, with the usual quantity of sand and silt found in these compartments of the intestines of cart-horses. The spleen was slightly enlarged, and emphysematous from decomposition; which condition was also observable in the tissues surrounding the kidneys and the abdominal organs generally. The liver was large, soft, and full of blood, and the large bloodvessels along the course of the abdominal cavity were also full of fluid blood, and their inner coats stained with it. The lungs were large and full of blood, which flowed freely on section, and the trachea was filled with frothy spume. The heart was soft and flaccid, with a small quantity of fluid, frothy blood in both ventricles ; and the peculiar *post-mortem staining* observed in the large bloodvessels of the abdominal cavity, was well marked on the endocardium—contrasting strongly with the ecchymoses, so constant in the same situation in anthracoid diseases. The brain and spinal cord were not examined. I may mention that the various organs of the mare, which had been preserved for analysis, showed much the same appearances, and the same marked tendency to decomposition. In neither of the animals, however, was the blue line on the gums observable, which is generally considered symptomatic of lead poisoning. From

these symptoms and appearances, and in the absence of positive proof in the shape of analysis, we concluded that death was caused by the ingestion of lead, either in solution in the water, or picked up from the bottom of the trough in the shape of paint, or the white lead so incautiously used for the joints and fittings by the workmen. The owner, however, could scarcely believe the quantity to be got from such a source sufficient, and was rather inclined to think the source of the evil was in the maize, which they had begun to feed the horses on about a week before. We examined the maize very carefully and minutely, but without being able to detect the smallest particle of lead, or any other agent capable of giving rise to such symptoms. Nor could he see how the cattle in the other part of the yard, which had to drink of the same water, and had access to the trough, were not affected. This, however, was easily explained by the fact that they had a plentiful supply of roots, and did not require much water; and also because the part where the white lead was used in joining the pipe to the trough was in the horses' compartment, and could not be reached by the cattle, and it was only in this compartment that the paint was gnawed from the bottom.

His doubts were increased by the opinions of a local philosopher of the inductive school, in the person of an M.R.C.V.S. of Peterborough, who volunteered the statement that "it could not be lead, as *it* was insoluble in water, and that it must be arsenic, because they had had two calves poisoned by drinking out of a vessel in which had been some poisoned wheat;" and thus, with one fell swoop of inductive philosophy, was our deductive hypothesis completely upset.

I send you these particulars in order to give our mutual friend an opportunity of examining the facts, and thus the better to enable him to express an opinion; so that the readers of the *Journal* and ourselves may have the benefit thereof, or an explanation of his conduct in the matter.

I may mention that the other horses looked dull and dispirited for a few days, but ultimately recovered. They had a great tendency to gnaw the bottom of the trough when let loose in the yard. Two other horses were brought in, and the whole

were fed on the maize, which was newly brought home. They were also supplied with water from the pump in buckets, and up to this time (April 7th) nothing unusual has been observed.

OVARIOTOMY (SPAYING).*

BY W. G. BATES, VETERINARY STUDENT, TORONTO VETERINARY COLLEGE.

THIS is an operation which is frequently performed, yet few veterinarians seem to have paid any particular attention to it; and as it is an operation which any of us at any time may be called upon to execute, I do not think it out of place to introduce the subject, as one worthy of due thought and thorough discussion.

The operation is performed quite extensively in my native State, and I think in the majority of the States of the Union. In Missouri it is generally confined to swine, and I believe that I should be within the bounds of truth if I said that fifty per cent. of the female swine reared in that State, solely for the butcher, are spayed; and twenty-five per cent. of the breeding sows, after they have fulfilled their duty as such, undergo the same operation. In swine the operation is performed for the purpose of making them grow and fatten better, by destroying all sexual desires; for weeding out those that are unfit for breeding purposes; as well as to prevent the production of more pigs than one can rear,—since many farmers allow the boar, or boars, as the case may be, to run with the other swine. As I intend to speak more particularly of the operation in cattle, it will suffice to say, that the modes of operating are similar, and of these I will speak further on.

Ovariotomy is performed in cattle for the same purposes as in swine, yet sometimes for another; though I believe that the latter, as a whole, has never proved very satisfactory: that to which I refer is the perennial secretion of milk. Undoubtedly, the operation is attended with very satisfactory and very profit-

* Read at the Society in connection with the Ontario Veterinary College.

able returns when it is confined to heifers unfit for breeding purposes; since it is succeeded by increased growth, and also by better fattening tendencies. And why? Because all sexual desire is stopped, which desire tends in a greater or less degree, through excitement, to destroy tissue, as well as to prevent the building up of the same, by, I might say, twenty-four hours every three weeks spent in roving, lowing, etc., if alone; if with other cattle, which is generally the case, even worse; and this, as we know, also interferes more or less with the rest of the herd. When limited to inferior animals the operation proves profitable, by being a sure preventive of propagation, since bad stock is never profitable stock. So that preventing propagation, and producing better growth and fattening properties, makes judicious culling, if done with this view, profitable as well as necessary. This is not all: by the increased constitutional tendency of the animal to produce fat, we obtain a more nutritive, tender, and juicy quality of meat, as well as the liability to disease of the generative organs being reduced to its minimum.

I have often seen spayed heifers at three years old bring nearly as much for beef as open ones at the same age would as breeding animals; though the latter were far their superiors two years previous; and even more than they would have brought had they also been sold to the butcher—simply due to better growth and fattening properties, combined with a better quality of meat. From this I do not wish you to infer that extra heifers should be castrated, but only the inferior ones; since they will prove more profitable in that way than by being allowed to generate their kind of offspring, or by keeping them for the butcher, without the operation having been performed; while in the case of the extra heifers, you would be destroying those which would prove more profitable as breeders.

The perennial secretion of milk is a subject upon which many differ. Some hold that the flow of milk may be continued for two, three, or even up to four or more years, whilst others deny this; yet most admit that the secretion is continued for a somewhat longer time than usual. Some maintain that the quantity, as well as the quality of the milk, is increased; whilst others, admitting the perennial flow, deny this statement, and *vice versâ*. Others

admit the increase of quantity and deny it of quality; whilst more admit the increase of quality and deny it of quantity. From what I have been able to gather, chemistry seems to substantiate the last statement—increase of quality generally at the sacrifice of quantity. The increase of butterine, caseine, and milk-sugar sometimes approximates one-third.

Last summer, whilst talking with a gentleman of Lafayette Co., in regard to the perennial secretion of milk supervening upon Ovariotomy, he made mention of a case in Cooper Co., Missouri, belonging to a Mr. Tucker. The gentleman of Lafayette said that he was at Mr. Tucker's farm in 1865, and while speaking to him in regard to a certain cow on the farm, he was informed that she was castrated, and that she had been giving milk for four years,—having been spayed as soon as she had recovered from the effects of parturition. My informant also stated that Mr. Tucker told him he had seen no apparent change in either quantity or quality of the milk, after a few weeks had elapsed; it of course varying now and then, owing to food or change of weather.

To sum up, in short, with regard to the period when the operation may be performed, I think myself justified in recommending it in a good milker when a better quality of milk is desired—as for sickly people or the like,—in an animal that has an inordinate or constant desire for the bull, without the capacity of becoming impregnated,—or when disease is present and it is necessary to remove the ovaries; also, in poor-feeding cows when it is the intention to fatten them after the flow of milk has ceased; as well as (as already mentioned) in the younger ones that are not intended for breeding purposes. In none other than the above would I advise the operation to be performed in a fine milking or beef-producing strain, since, in either case, it would tend to pluck the bud that blooms the rose.

THE OPERATION IN CATTLE.—The modes in which ovariotomy is performed in cattle are as follows, which I will denominate according to the region selected as *Inferior Abdominal*, *Lateral Abdominal*, and *Vaginal*; though Mr. Percivall, in his Anatomy, when treating of the ovaries in the mare, says, "Where it is one's intention to remove them, the incision should be made

along the crista of the ilium," etc. I cannot accept Mr. Percivall's advice as to this region, even in the mare, letting alone the cow —in which, owing to the great development of the transverse processes of the lumbar vertebræ, it would be inadmissible.

The *Inferior Abdominal* operation I cannot advocate, since, besides other abnormal consequences likely to follow either operation, we may, and, in fact, frequently do, have Hernia. The incision extending from behind forwards, large enough to admit the hand, is made, in the heifer, about three inches anterior to the *pubis* and to one side of the *linea alba.*

The *Lateral Abdominal* operation—that which is most generally adopted in the Western States—is performed as I here shall endeavour to explain. We prefer favourable weather in the spring or autumn. The animal to be operated upon is put off food and water for twelve hours—perhaps longer ; she is then thrown on her right side, the fore-limbs being well secured in front, the head held down, and the hind-legs stretched backwards and also well secured. The incision is made from above downwards, large enough to admit the hand, beginning about an inch and a half anterior and an inch inferior to the anterior iliac spine: remembering to have first clipped or shaved off the hair, and cleansed the skin by means of a brush or water if necessary. Knowing the situation of the ovaries—*i.e.*, under the antero-external portion of the transverse process of the sacrum, and of course held pendulous by their ligaments—the hand is introduced inwards and backwards, the left ovary secured and drawn out (the ligaments allowing this), and excised with the knife in the heifer ; but in the cow better removed by torsion. The hand is again passed within, and directed under the anterior portion of the sacrum, against the inferior surface of the rectum, and the right ovary secured and removed in the same manner as the left. Here we frequently experience some difficulty, owing to the ligaments not allowing the ovary to be drawn outside the incision ; yet we generally succeed in drawing the ovary out ; but, should we not be able so to do, we can succeed in detaching it by manipulation and the use of the thumb-nail. In a case of this kind, as well as in other cases, I believe that the écraseur would prove a very useful instrument, and should I ever perform

ovariotomy again I will give it a trial. The manner in which I would advise the écraseur to be used, is for the operator to secure the ovary by the means already mentioned; then have an assistant to insert the instrument, the chain or wire of which, as the case may be, the operator succeeds in passing over the ovary; he should now grasp the ovary, and order the assistant to work the instrument. After the ovary is detached, the écraseur should be withdrawn, and then the hand with the ovary. Sew up the incision with an interrupted suture, and treat as a common wound.

In making the incision, many prefer making it on the right side. Professor Law recommends the same, I should judge, by directing the operator to stretch the animal on her left side. I prefer making the incision on the left side; as then one has no internal organs to contend with, save the rumen, which, if slightly cut or injured—though there is no necessity for so doing,—would be the least likely of any of the digestive organs to give rise to serious results. Evil results are very rare, though Peritonitis may occur from rough handling, exposure, etc., as well as other conditions liable to follow any wound.

The operation *per vaginam* is a more scientific manner of operating. It cannot be performed in the smaller animals, nor in the heifer; and as to the operation in the cow, I doubt whether it is attended with much better results than the lateral abdominal operation. It is recommended to be performed by making an incision though the superior wall of the vagina, near the *os uteri*, and then, introducing two fingers, to grasp the ovary, withdraw it, and remove by a torsion instrument. I here again believe that the écraseur would be very useful, as well as more easy to operate with.

In sows and bitches the operation can only be performed by one of the abdominal methods, and it is needless to say which I would recommend. The incision is made somewhat as in the heifer, yet only large enough to introduce two fingers, with which the ovaries are sought, withdrawn, and then excised by means of the knife in the young; while, in matured or old animals, the écraseur or torsion instrument should be used. Sometimes, owing to the difficulty of reaching the right ovary,

it may be necessary to get hold of the right cornua of the uterus, and withdraw it until you succeed in securing the ovary; after this is detached, the horn is returned, and the wound treated as in the heifer.

TRANSVERSE PRESENTATIONS IN PARTURITION.

BY A. E. MACGILLIVRAY, V.S., BANFF, N.B.

OBSERVING in the *Recueil de Médicine Vétérinaire*, for 15th January last, reports of cases of Transverse Presentations by MM. Recordon and Wernert, and subsequent discussion as to the latter communication, and considering the want of a *post-mortem* examination in proof of such presentations, I have thought it necessary to publish the following case and autopsy.

On the 25th of January last, I was requested to attend at a farm, some seven miles away, in reference to a cow which was showing slight signs of parturition and great uneasiness. On arriving at the farm I found the cow, a large, well-built, five-year-old animal, very weak, listless, and uneasy; appetite and rumination gone; abdomen immensely distended, and fœtus to be felt in both flanks. The poor animal persisted in standing, being evidently afraid to lie down. There were no calving pains, but a slight discharge from the vagina.

My diagnosis was—A serious case of *Hydrops Amnii*, and twins present.

My prognosis was—A very doubtful case, but possibly it might do well.

Treatment.—I immediately made an exploration *per vaginam*, and found the *os uteri* partially relaxed, in so far as to allow the entrance of three of my fingers. Resolving not to employ any force, I applied a simple emollient to the partly dilated *os uteri*; gave my patient a strong stimulant, and then left her alone for two hours. At the end of that period I again examined the cow *per vaginam*, and found the *os uteri* much dilated, my hand easily passing into the uterus. I now ruptured the fœtal envelopes, and an immense discharge of fluid (very pale straw-coloured) took place. This discharge continued pretty

abundantly for nearly half an hour, when I again introduced my hand into the uterus, and found a living fœtus within reach. It was a hind-quarter presentation, lumbo-sacral position. The calf, although of very small size, owing to the absence of uterine contractions, required considerable traction to take it away; it was alive and did well.

After the extraction of the calf, the cow lay down, and large quantities of fluid continued to escape from the uterus. On exploration, I could find no part of any second fœtus; my hand merely moved about in a great cavity—namely, the over-distended uterus. Being almost confident that there was a second calf, however, I gave the cow another strong stimulant, and again left her for two hours.

On returning after two hours, I found my patient very weak; she would scarcely rise; no appetite, but took a little warm drink. I again explored *per vaginam*, but my hand came in contact with no part of a fœtus; the uterus, however, still remained widely distended—there being no appreciable signs of the contraction of that organ, which usually takes place shortly after delivery. In fact, the cow never had a proper calving pain from the time I saw her, whatever might previously have been seen. There was still a considerable quantity of fluid escaping from the uterus *per vaginam*, said fluid being now lighter in colour and thicker in consistency.

I had my patient removed into a roomy place by herself; and, having ordered more stimulants, I left her for a night, leaving strict injunctions to watch her closely.

She gradually sank, and died next morning, some nineteen hours after I first saw her.

Autopsy.—Two hours after death I made a *post-mortem* examination. I had the cow placed on her back, and then made a sweeping crescentic incision from the right flank directly across the abdomen to the left flank, just about midway between the udder and sternum; thus at once laying open the whole abdominal cavity. At first sight the abnormally enlarged uterus appeared to occupy the entire abdomen, so much was it distended. It lay on the floor of the abdomen, stretching from side to side, and much resembled an immense paunch, since,

owing to the great distension, almost every appearance of the *cornua uteri* had become obliterated. On cutting through the attenuated uterine walls, a vast amount of fluid escaped; this was the more astonishing, considering the immense quantity which had been discharged *per vaginam.* The absence of uterine contractions, however, and the fact that the fluid collection was alveolated and cellulated (as mentioned in Fleming's *Obstetrics*, page 175, and Saint Cyr's *Obstetrics*, page 160), will account for its not having entirely escaped from the uterus.

As presupposed, I found a second fœtus *in utero;* it lay right across the uterus *horizontally*, from side to side as regards the cow; its back was presented to the pelvic inlet, and its two fore and two hind extremities were folded on its belly and faced the *fundus uteri:* in fact, the presentation was truly transverse, being the Dorso-lumbar, and the left Cephalo-ilial position.

The second fœtus was double the size of the first, and had evidently been dead for a long time. It appeared to be more than fully matured, having head and teeth of great size; while the first and living fœtus was very small in size, and looked like an eight months' calf. There was no watery infiltration nor gaseous distension about the dead fœtus. It lay close to the floor of the abdomen, and well forward; and from its position could evidently never have been reached by my hand. Besides, owing to the absence of any uterine contractions, from the over-distended and consequently attenuated state of the uterine walls, the dead fœtus had never been moved from its low (transverse) position, so as to come within reach of my hand and arm introduced *per vaginam.*

So much distended and attenuated were the walls of the uterus, that I am confident the least rough usage of the mother would have caused their rupture, and thus allowed the escape of the dead fœtus into the extra-uterine abdominal cavity.

The transverse presentation (dorso-lumbar), left Cephalo-ilial position, in this case was clearly indisputable; and more than this, however, from the semi-gelatinous and alveolated nature of the surrounding dropsical deposit, and the inertia alike of the fœtus and uterus, it cannot be doubted that this transverse position must have existed for some considerable period. A

living mal-postured fœtus during violent uterine contractions may, and often does, alter its position; but in the case of a dead fœtus and the entire absence of uterine muscular force, we can only expect to find the creature in such a position as it must have occupied for a considerable time—*if not from the first.*

Transverse presentations may, therefore, be deemed provable by *post-mortem* demonstration.

I cannot conclude my remarks on this case, without calling attention to the difference between the fluid evacuated along with the first (and living) fœtus, and that found around the second (and dead) fœtus. In the former it was straw-coloured and without any trace of alveoli or celluli; while in the latter it was quite clear and glistening, and plainly held together in divisions—namely, alveoli or celluli: bearing, in fact, a strong resemblance to the vitreous humour of the eye. From these facts, I am inclined to suppose that the *Hydrops Amnii* was confined to the second or dead fœtus, and very likely commenced after its death *in utero.*

On the 5th May, 1876, I received a very express summons to attend a mare in foaling, at a farm in this district. I made all haste to the spot, and on my arrival found *all the four feet* of the fœtus protruding from the vulva! Fortunately, however, no one had been allowed (as is only too common) to touch the mare; so I had the first and best opportunity of exercising my skill on what seemed to be a serious case.

On exploration and very careful examination, I found I had to do with a transverse (sterno-abdominal) presentation, exactly similar to that represented at page 485 of Fleming's *Obstetrics.* The fore-part and head of the fœtus were well down, and the head beyond reach; the hind-part and the tail were placed in the lumbar and sacral region. After consideration, I resolved to take away the foal by the hind-quarters, if possible in the lumbo-sacral position; and with a view to this, I immediately corded both hind-legs above the fetlocks. Having done so, I then got two strong men to lay hold each of a fore-foot, and force, with all their might, the fore-extremities back through the pelvis into the abdominal cavity. The mare being very *roomy*, and foaling having only recently commenced, this retropulsion was in a short

time successfully accomplished; and the traction of three men was then all that was necessary to draw away a living foal!

I confess I was somewhat astonished, as well as extremely pleased, at the simplicity and ease with which this delivery concluded, having seen a good many very untoward cases of a similar description. No doubt, I was all the better for the absence of the (by no means uncommon) enterprising and all-powerful empiric, who *will* pull at the first thing he gets hold of!

[Goubaux, Professor of Anatomy at the Alfort Veterinary School, has for many years contended that the transverse position of the fœtus in the uterus is impossible—notwithstanding the cases recorded, and in which veterinary obstetrists have insisted on meeting with this malpresentation. In our "Text-book of Veterinary Obstetrics" we have given what might be considered abundant evidence of the fact that not only is such a position possible, but also that it is not so very unfrequent, particularly in the mare; and we have ventured to hint at the reasons for this. Another instance, occurring since this portion of our work was printed, is published in the *Archives Vétérinaire* for April (10th) last. This happened in the practice of M. Chédhomme, veterinary surgeon at Vibraye, and the animal was a mare. It had been in labour since the previous evening, and Chédhomme found it standing, manifesting symptoms of slight colicky pains, and the four limbs of the fœtus protruding from the vulva as far as the lower third of the cannon bones. An exploration discovered the foal to be lying transversely to the long axis of the uterus, and slightly oblique downwards from left to right, with the fore-quarters in the left flank of the mother and the hind-quarters in the right flank. The hand could only touch the point of the shoulders and the stifles; the head could not be reached. Extraction was effected while the mare lay on the left side. The pasterns of the fore-limbs were corded, and assistants pulling at one of these at a time enabled Chédhomme to amputate them at the knee. The front part of the fœtus was then pushed towards the fundus of the uterus—this part of the operation being greatly facilitated by

placing the mare on its back, and raising the croup by ropes attached to the hind-legs and passed over a beam. By this means the position of the fœtus was converted into a posterior one, and the croup of the mare being lowered, delivery was accomplished by attaching cords alternately to the pasterns and hocks of the foal, by which traction was made; and this, combined with the expulsive efforts of the mare, soon resulted in birth.

Goubaux makes some comments on this case, and confesses that he is still unconvinced, and that he continues to believe that the transverse presentation is not possible in the females of the larger domesticated animals (*Je continue à croire que la présentation transversale n'est pas possible chez les grandes femelles de nos animaux domestiques).* He adds, that though a fœtus presents by the four limbs, it does not follow that there is a transverse presentation. The fact that no visual demonstration of the existence of this presentation has been recorded, has been, of course, urged in favour of Goubaux's opinion, as no opportunity for a *post-mortem* examination appears to have occurred. Mr. Macgillivray merits our thanks for having set the question at rest so far.]

LOODIANA FEVER.

BY STEPHEN KNOTT, M.R.C.V.S., ROYAL ARTILLERY.

(*Continued from page* 343.)

In my last paper I mentioned my opinion as to the "sanitary measures" to be adopted in this disease; but as I abridged my ideas possibly a little too much, I now add a few remarks to those already put forward.

I shall refer more particularly to the *post-mortem* business of animals that have died of this Fever,—and in the first place would suggest the advisability of having, in every military station in India, a spot selected for the burial of Loodiana cases only, where the dead ought to be carted prior to the *post-mortem* examination; and this idea of having this examination at the place of burial is set forth with the view of having the

area of infection reduced to a minimum, so that the blood material of disease may not be scattered about. Dead horses in India are generally buried in the jungle, or on some plain just outside the cantonment; and that is why I state that a spot ought particularly to be selected for the burial of those that die of this disease. At present they are buried here and there indiscriminately, and I believe that this course adds in time to the spread of the disease, for the following reasons :—Grass is brought into the troop lines that possibly may have been dug up where these horses have been buried, or close by--whereas, were one spot selected, and the grass-cutters warned not to dig root grass from or near that place, there would be the satisfaction of believing that no poisonous material was brought in with the grass or with the earth adhering to its roots. We, who have served in India, well know that grass-cutters will add so much dirt and rubbish to their bundle of grass (in spite of every fine and forfeiture of their day's wages), as will bring their bundles to the regulation weight of 40 lbs. or 50 lbs., according to the season.

There is again another precautionary measure which ought to be adopted: to guard against the disinterment of the bodies. The natives will invariably dig up the carcases of horses,—dead, no matter of what disease,—the "chucklers" or boot-makers in particular, because, in addition to the food, they have the hide for leather. I am under an impression that there is an order in India (very generally neglected, however) that the skins of horses that have died of Malignant Fever should be slashed in stripes, so as to prevent Mr. "chuckler" and others from digging up the carcase and skinning it.

As there is usually a cart and a pair of bullocks used for carting the dead for burial, I would suggest that the bullocks so employed should be isolated from those used for battery purposes, and the cart thoroughly scoured and disinfected after this service. With reference to horses in the sick lines suffering from this disease, I am of opinion that the dung and litter ought to be burnt, and not allowed to be mixed with that of healthy horses.

A few words about the troop lines. Would it not be advisable to have the troop horses removed periodically, and

encamped on some healthy spot, in order that in the meantime the lines could be renewed with fresh earth and thoroughly disinfected,—as, for example, drains cleaned, picket pegs removed, and the ground thoroughly dug up, as deep as the drain of urine and fæcal matter had penetrated? A great amount of percolation must naturally take place around a horse's picket peg, considering the number of hours the animal is standing there; the soil, moreover, is of such a porous nature that penetration to a great extent evidently exists. In order, therefore, to lessen as much as possible the evils which are likely to arise from this state of things, I would suggest that the foregoing precautionary measures be carried out systematically at certain times of the year—say, prior to the early and late monsoons—and I have no doubt the results would prove very beneficial.

Again, there is the manure to be taken into consideration. No accumulation in the dung pits should be permitted, and its eventual disposal ought to be satisfactorily accounted for, because of its generating power of producing bacteria.

As regards the water, horses are sometimes taken to a river to be watered, and in the rains the rivers generally overflow their banks to a considerable extent. The soil thus suddenly covered with water has been previously dried up with the hot weather, and, as a rule, all kinds of animals have been grazing there —sheep, buffaloes, herds of pariah pigs, etc.—and all the fæcal matter of these animals, besides quantities of decayed vegetable material, must contaminate the water very considerably. It would be wise, therefore, if strict precautions were adopted, so that horses would drink only from a part of the river where the water was flowing continuously, and not on any overflowing portion of the soil; but rather wade into the fresh water. The overflow portion of the river is to a certain extent stagnant; and here, owing to the filth deposited, the water is unwholesome and poisonous. The native horse-keeper, consequently, ought to be watched well, otherwise he would just as soon water his horses at this spot as anywhere else, doubtless from knowing no better. When on the march in India, at every camping ground we came to I took the precaution to ascertain from the "tahsildar," "kutwall," or head man of the village, where the

best water could be obtained, and after getting the desired information, rode off and saw it for myself. I consider this to be a very important item to be looked to when marching, as also the quality of the grass brought in by the grass-cutters, as they will often bring in a sour, rank, coarse grass, called "tank grass," instead of the "haryali" or proper "root-grass," which is more difficult to get at.

I ought to have mentioned in my first paper, with reference to horses in the troop lines, that when an outbreak did occur, many a valuable horse was saved by getting him under treatment in the early stage of the disease. This, however, could be done only by careful watching: by going through the lines often during the day, and thereby ascertaining at once if any were looking unusually dull. When this happened, the horse was examined to discover the presence of Fever symptoms,—such as a hot mouth, pulse quickened, as well as throat symptoms, etc. This was one order I gave to my farrier,—to watch them often and very carefully during my absence; and I am of opinion that many a horse was saved by this plan.

I mention my ideas in the hope that they may be useful to others, and especially to the young army veterinary surgeons; and having now written all I have to say on the subject of this disease, I shall, in conclusion, recapitulate my views on sanitary precautions.

Sanitary Measures.

All *post-mortems* to be made in one place.

Fæcal matter and litter of horses suffering from this disease to be burnt.

Horse blankets to be burnt, or disinfected and well washed.

Horse-keepers and grass-cutters attending to the sick to be kept away from the troop horses.

Decayed vegetation about the lines to be swept up and burnt, prior to the monsoon coming on.

Grass-cutters to be warned not to bring grass from where diseased animals have been buried.

Precaution against natives exhuming the carcases.

Bullocks that are used in carting away the dead to be isolated

from the lines and remainder of the bullocks. The cart to be thoroughly washed and disinfected.

Troop lines to be dug up periodically, and old earth carted away and disinfected, on principle, even if no disease has appeared.

No accumulation of manure to be allowed.

Careful supervision when horses are at water.

FATAL ULCERATIVE ENDO-METRITIS AND HÆMORRHAGE IN A COW.

BY G. GRAY, M.R.C.V.S., BAKEWELL.

THE uterus I forward for your inspection was that of a two-year-old cross-bred heifer, the property of Mr. Thomas Ashton, farmer, Rowland. The history of the case is as follows: The heifer being a strong healthy-looking animal, off a good sort for dairy purposes, the owner intended breeding from her, and accordingly she was put to the bull on December 30th, 1876. For a few days afterwards she strained at times, and ejected small quantities of blood. Very little notice was taken of this, as she otherwise appeared in her usual health. She was turned out with the other young stock, which were on pasture, with an allowance of hay twice a day. Nothing unusual was observed until February 14th, 1877, when it was seen that she was in œstrum; she was again put to the bull. The symptoms that had succeeded the first *coitus* now reappeared, but they were greatly aggravated; there was a continuous discharge from the vagina of a chocolate-coloured fluid, which had somewhat the consistency of cream. She strained frequently. The owner thought her "over-bulled," and took little notice of it, but turned her out. The symptoms continued much the same for four or five days; it then became evident that something was seriously wrong, as she was fast losing flesh. She was taken up and comfortably housed, her dietary looked to, and my attendance was requested on the 27th. On examining her I found the pulse more than 80, and weak; the temperature of the ears, legs,

etc., was normal, the conjunctivæ were pale, the eyes bright, the general expression excited and anxious, appetite good, bowels regular. She strained most severely at times, when a little blood would come away with the discharge. I prescribed tonic and anodyne draughts twice a day, linseed gruel to drink, with plenty of cake and good hay, and recommended her to be kept perfectly quiet. In two days the owner called to say she was much the same as when I saw her, only the blood came away in greater quantities, and on that account she was rather weaker. I saw her on the following day, March 2nd. She had passed so large a quantity of blood the previous night, that the owner quite expected to see her dead next morning. I found her down, and in a very anæmic state. I got her up, but she could scarcely stand. The anodyne treatment was continued, and I ordered stimulants. I considered local treatment of no avail, and gave little hopes of a recovery. She died on March 5th. I made an autopsy on the 6th, and found all the organs healthy, with the exception of the uterus; about two quarts of sero-sanguineous-looking fluid escaped from it while I was taking it out. With the exception of this fluid, I send the organ to you just as I found it.

Remarks.—I believe this affection is more commonly met with in heifers than cows, and, strange to observe, the animals that fall a prey to it are generally white or light roans (the case I have related was a white heifer). This fact has been observed by many. The symptoms appear shortly after being put to the bull. I shall be glad to have your opinion as to why white animals should be so prone to the disease.

[Professor Duguid kindly examined the organ, and has furnished the following statement:—"The uterus referred to presented externally the appearance and volume natural to the third month of gestation, with the fœtus lying in the left cornu. The *os uteri* was dilated, and protruding from it was an elongated piece of blood-clot about an inch in diameter; this was merely a portion of a very large clot, weighing over twelve pounds, and lying in the cavity of the organ. This mass of clot was in many places firmly adherent to the mucous membrane;

at other points it was breaking up. I am inclined to think, from my examination of the organ, that the heifer was pregnant and abortion had taken place; afterwards ulcerative Endo-metritis and hæmorrhage ensued as a result." We are unable to give any satisfactory explanation as to why white or light-coloured animals should be more liable to this disease than others.]

COMMENTARY ON MR. W. E. LITT'S CASE OF SO-CALLED "EMPROSTHOTONOS."

BY "PLEXIMETER."

HAVING carefully studied Mr. Litt's case recorded in last month's issue of the *Veterinary Journal,* I would, with all due respect to the contributor, offer a few remarks upon it. The case is one of great value to veterinary pathology, being altogether unique in our records up to the present time. There is an old saying, "*A place for everything, and everything in its place*": actuated with this feeling (a purely disinterested one), I should like to see this so-called case of "Emprosthotonos" put under the heading of its correct pathology.

Although Mr. Litt had the advantage of a second opinion in corroboration of his own, the diagnosis arrived at is open to very grave doubts; and when the symptoms of a somewhat rare disease, called by Mr. Moore and the late Mr. Haycock "*Hysteria*" (under the impression that it affected mares only), and since by others "Azoturea," are taken into consideration, the conclusions arrived at appear to me to be altogether untenable.

I will now make a slight analysis of the symptoms given in this case, and compare them with those of Tetanus. The first appearances mentioned are general stiffness, contraction of the abdominal muscles, and a gait suggestive of Laminitis; there was no constitutional disturbance, the appetite being good; but irritability of the bladder, with constant voiding of small quantities of urine, was a very marked symptom. The horse had been attacked from time to time with fits of clonic muscular spasm, alternated with complete intermissions, for three weeks; and

the medical attendant was inclined to think the disease was Rheumatism. On one occasion it was affirmed that the horse had had an attack of spasm in the morning, but was found by the surgeon looking as usual.

Rigidity and stiffness of the muscles, amounting in some instances to almost total paralysis, accompanied with fits of "*clonic spasm*," are constant symptoms of Azoturea. Irritability of the bladder, with continual ejection of small quantities of urine, and profuse perspiration, are also never absent. The disease even in its acute form is intermittent, more or less.

Now, in true Tetanus the spasm is not of the "*clonic*" character, but partakes strictly of that which is called "*tonic spasm.*" The spasm of Tetanus "*remits,*" but never "*intermits.*" This fact alone incontrovertibly proves that Mr. Litt's case was not one of Tetanus at all; therefore Emprosthotonos is out of the question, for he says (to use his own words), "However, in about an hour's time, gradually, and as it seemed of its own accord, the spasm relaxed, and the horse resumed his ordinary appearance." It is needless to remark that a horse's ordinary appearance is that of health, and freedom from all disease.

The above is, I think, sufficient to preclude the possibility of the disease being Tetanus in any shape; but I will proceed a little further. All forms of Tetanus are preceded by or accompanied with *Trismus*—either partial or total—both in man and the horse; the eyes are sunk in their orbits through continuous spasm of the *retractor oculi* muscles; there is often an outward squint, the *membrana nictitans* is prominent, and is visibly implicated in the spasms, when fits of excessive tonicity develop a paroxysm.

The animal in question possessed perfect freedom of the jaws, and was said to take his food well.

The ocular and facial symptoms of Tetanus hold no place in Mr. Litt's communication.

The "tucked-up" appearance of the abdomen is merely a general symptom of many diseases, and of little diagnostic value in *special pathology.*

I am of the opinion that Mr. Litt's case was one of *Sub-acute Azoturea*, affecting the muscles of the fore quarters and extremities, also the sub-thoracic and sub-abdominal regions. Accepting

it as such, it is a highly valuable addition to the pathology of that disease,—the disorder, up to the present time, being only known to our books in the *acute* form, and as affecting the hind quarters and limbs alone. In acute cases the urine is highly coloured, of great density, and surcharged with urea and other effete products. In favourable cases, it yields to the influence of eliminatives in the course of from three to seven days. The urine in Mr. Litt's patient was not highly coloured, the case being of a *sub-acute* character; the quantity of "*materies morbi*" in the system being small, and their elimination by the kidneys consequently slower, therefore less striking to the observer. The kidneys perform their work well, and no symptoms of renal disease would be found in the urine, as stated by the contributor.

Again, in true Tetanus all the sphincters are involved in the spasm, the "*sphincter vesicæ*" notably so, micturition being rarely or never performed; whereas, in this instance, quite the reverse was observed.

These remarks are penned in a friendly spirit, and without the slightest desire on my part to give offence to Mr. Litt.

This phase of the above-mentioned disease (Azoturea) being unknown to veterinary pathology, I consider that good service has been done to the profession by recording it. I do not pretend to judge of cases I have neither seen nor heard described, but Mr. Litt has given such a graphic detail of this interesting case as to justify me in doing so: it having been my fortune to encounter several cases in the *acute*, and one in the *sub-acute* form—all affecting the posterior parts only.

AMPUTATION OF THE LIMBS OF ANIMALS.

BY R. G. WALTERS, M.R.C.V.S., NEWPORT, SALOP.

In the *Veterinary Journal* for April I observed a case of amputation of the fore-leg of a cow, by Mr. Litt, of Shrewsbury. Having operated in such cases on six occasions—once on a pony, three times on cows, and twice on sheep—with equal success, it may not be uninteresting to the numerous readers of the *Journal* to know that amputation may be performed with

great advantage in many instances. The following cases will prove this.

Some fifteen or twenty years ago, a very good cow just calved, and a capital milker, fractured the radius above the knee—a compound comminuted fracture. I, with my father, suggested to the owner that amputation was the only means of saving the animal's life. We obtained the owner's consent, and operated in a similar manner to Mr. Litt, and with the same amount of success. The cow yielded a good quantity of milk all the summer, and made an excellent fat beast afterwards. Another case was that of a very favourite pony in foal, the property of a lady. This animal had one of its metatarsal bones smashed to pieces, and the owner being very anxious to obtain the foal from it, we amputated the leg immediately below the hock, and had a wooden leg fixed on the limb. The pony foaled, reared its colt, and this being the only motive for keeping it alive, it was then shot.

The next two cases were young cattle, about eighteen months old, one of which fractured the metacarpal, the other the metatarsal bone. Both limbs were amputated, and the animals were fattened and sold to the butcher.

I have also operated on two sheep, which did well afterwards.

I would, therefore, recommend those who meet with such cases, if circumstances are favourable, by all means to try the operation of amputating the limb.

AN EPIZOÖTY AMONG ASSES IN SPAIN.

BY A. H. THOMAS, M.R.C.V.S., DUBLIN.

DURING last summer and autumn an epizoöty prevailed extensively amongst asses in Spain, especially in the provinces of Murcia, New Castile, and Catalonia. The disease was of a septic nature, chiefly affecting the respiratory organs, and although almost universally prevalent amongst asses, rarely attacked horses or mules.

The particulars of several cases are published in *La Veterinaria*

Española—the disease being termed "Angina difusa Séptica," "Angina laringo-bronquial Aguda Epizoótica," and "Pleuroneumonia Gangrenosa," whilst one observer remarks that it agreed in many points with the catarrhal epizoötic fever described by Hering under the name of Influenza in the Horse. It had never before been observed in Spain, and was supposed to be caused by atmospheric influences.

CONGENITAL HEPATIC HERNIA.

BY HENRY SNARRY, M.R.C.V.S., SELBY, YORKSHIRE.

In May *Journal* I observe an article on the above subject by Mr. Kirk, and after reading it I am induced to submit to your notice the following case, which I think professionally will be beneficial, as it shows that animals may live to a good age without this pathological freak of nature interfering in any way with their natural health.

A few days ago I was requested to visit an aged cow, which had produced six or seven calves—the last one recently. Up to the time of the last illness of the animal in question, she had very good health, with the exception that for the last six or seven years she was troubled with a slight husky cough. Within a few minutes after my arrival she died, before I was able to do anything for her. The *post-mortem* examination showed great congestion of the brain, with effusion, which was the immediate cause of death. The floating colon presented a stricture about four inches in length, and would not admit more than one finger. The stomachs were healthy; the rumen contained a quantity of very coarsely chopped wheat straw. The cæcum was greatly disorganized, from inflammation, and tore very readily. It contained nothing but a large quantity of reddish-brown coloured fluid, in which floated thick bands of lymph. Shreds of lymph also adhered to the mucous membrane.

I was most surprised at the peculiar relation of the liver to the lung. I examined it very carefully, and found the right superior lateral ligament of the liver passing through an opening

in the aponeurotic portion of the diaphragm, and attached to the surface of the right lung. For more minute examination I cut away part of the diaphragm and portions of the liver and lung. The ligament could be moved backwards and forwards through the aperture very easily,—showing there was no adhesion of its margins; and from this fact I am convinced the Hernia was congenital. The fibrous band was very firmly adherent to the lung substance, and within its folds was a projection of the anterior surface of the liver, which was partly through the diaphragmatic opening. There was no adhesion of the liver itself to the lungs, neither was there any trace of inflammation, nor disease of any kind about the parts mentioned.

I should have been glad if Mr. Kirk had gone more fully into the minor details of his examination; we should then have been able to compare the cases. As you may notice, the animal which came under his observation was a young and healthy one, and that which came under my observation was old and diseased.

A RECORD OF A FEW CASES OF PURPURA HÆMORRHAGICA IN THE HORSE.

BY ROBERT GIBBS, M.R.C.V.S., TAUNTON.

Case I.

In the summer of 1874 I was called to attend a horse, "Hazard," the property of F. Alleyne, Esq., of Hillmore House, which, I found, had been under the care of a neighbouring practitioner for five weeks, and it being feared by the owner that Farcy and Glanders were developing themselves, further advice was sought.

Symptoms.—Petechial spots on Schneiderian membrane, swellings on all four legs and on various parts of the body. Pulse weak and thready, and 60 per minute.

Diagnosis.—Purpura Hæmorrhagica.

Having administered a diffusible stimulant, I left the horse for the night.

Calling next morning, I found all the symptoms of Purpura present: legs greatly swollen, and hard and tense to the feel; urine high-coloured, and scanty, and sanious discharge from the nostrils.

Gave oil of turpentine ℥ij, with gentian, three times a day in boiled gruel, and had the legs fomented with vinegar and hot water. I continued this treatment for ten days, during which time the swelling left the legs and proceeded to the abdomen, which prevented my slinging the horse. I scarified the abdomen, but should not again adopt this treatment, as it gave rise to wounds of an unhealthy character, and which were most difficult to heal.

I now gave the turpentine morning and night, and sulph. quinine at mid-day. The horse continued standing for ten weeks, during which time he appeared to make a favourable advance towards recovery; when the owner injudiciously administered a dose of purgative medicine, "to improve his condition." This was followed by severe colic and super-purgation; but treatment being adopted, he ultimately recovered—with the exception that he was a "slight whistler"—due, I think, to effusion in, and thickening of, the inner coat of the trachea. During the treatment of this case, both owner and attendant well nigh lost their patience, and would, on several occasions, had I not been unwilling, have had the horse shot.

Case II.

In the spring of 1876 I received a telegram to go to Holnicote, to see a horse belonging to Sir T. Acland, M.P.

On my arrival I found a farrier had been in attendance for some time; and he, supposing the horse to be farcied, had given digitalis and other depleting medicines. All the symptoms of Purpura were present, accompanied with difficult breathing and swelling of the nostrils, head, and throat. Oil of turpentine was administered, and his head was steamed with hot water and spruce-fir tops.

The case being some distance (33 miles) away, I could not see it as often as I wished, but in about four weeks the horse was left apparently convalescent. As he did not improve in condi-

tion, and had such a morbid appetite as to eat dirt, I was again called in—when, supposing acidity of the stomach to be present, I gave a mild cathartic. This, however, was followed by super-purgation, as in the previous case; but it was successfully combated by active treatment.

The horse, during the progress of the disease, lost all his hair, and looked, as the groom expressed it, "like a scald' pig."

There remained (due no doubt to the large doses of turpentine administered) slight irritation of the kidneys. This was alleviated by the application of a fresh-flayed sheepskin twice a week, for one month, to the loins; during which time the horse was regularly exercised. The owner, I was told a few weeks since, would not take £100 for him.

Case III.

In September last I was summoned to see a mare, the property of W. Gibbs, Esq., of Cothelstone, which I had previously attended for a "Quinsey," and had left to all appearance quite recovered. She had all the symptoms of Purpura, the legs being enormously swollen, etc., etc.

I exhibited chlorate of potash, ʒiv, morning and night, and sulph. quinine, ʒj, at mid-day, in strong beer.

In this case the mare would not eat. I allowed her no water, but gave her a gallon of cow's milk twice a day.

The disease rapidly left her, and in a few weeks she was at work again.

Remarks.

I would draw the attention of your readers to the marked susceptibility of the system to the action of cathartics, during the existence of this disease; and would also remark, that from the bad effects produced by the turpentine, I shall not for the future administer it in this complaint—but use, instead, the equally efficacious and more certain chlorate of potash.

Editorial.

THE ÆTIOLOGY OF SPLENIC FEVER.

(*Continued from page* 352.)

To discover how long the Bacilli could survive the effects of drying, Koch tried the following experiments. Blood or spleen from an infected animal was dried in a shady place, exposed to the air; with this a mouse was injected, and the results watched under the microscope. That which was dried in very thin layers lost its infective power after twelve to thirty hours, and, at the same time, its power of growing into elongated fibres in the incubating apparatus. Thicker layers retained their powers for two or three weeks; and some, still thicker, for four or five weeks. After a longer time they were never capable of producing the disease; and it may be said that such substances, thus dried, are never able to produce Splenic Fever, unless they are also able to produce spores from the fibres. And inversely, as the conditions of successful cultivation, Koch found that 35° was the best for their development, the spores appearing after twenty hours; at 30° they took thirty hours; at 18° to 20° two and a half to three days; below 18° the appearance of spores was exceptional; and below 12° the growth of fibres was never observed. On the other hand, at 40° development of spores was rare, and it appeared to cease at 45°.

As to the necessary conditions of air-supply, the following results were obtained: *Bacilli* were rubbed up with the blood, or aqueous or vitreous humour of an ox, and placed in a well-closed glass vessel. Very quickly there ensued an odour of putrefaction; the *Bacilli* disappeared after twenty-four hours, without the fibres enlarging, and lost their infective powers. That their death was due to the absence of oxygen, was shown by placing a drop of blood infected by the *Bacilli* under the microscope. Examined by the micro-spectroscope, it gave the bands of oxy-hæmoglobin; the fibres in this drop increased four or five times in length in three hours; but after that time the oxygen was clearly used up, as the presence of the absorption-band of reduced hæmoglobin proved. From this moment the growth of the bacillar fibres ceased, although true putrefaction had not set in.

One of the first signs of death is the opalescence of the fluid and falling to pieces of the fibres, as is well illustrated in Bollinger's article in Ziemssen's "Handbuch de Specielle Pathologie," etc., p. 465.

In connection with the discussion which is going on as to the "plasticity" of the Bacteria, Koch says that he has never observed any passing of the fibres into micrococci or the like.*

* The reviewer of Koch's paper in the *Quarterly Journal of Microscopical Science* remarks on this point: "Why the Bacteria should do this when dying I can hardly see, and wonder that any one can expect it, especially as we know—thanks to Koch—the morphology of the alternation of generation in this species of *Schizophyte*; and, further, I imagine that no one who has any clear ideas as to what forms are, would imagine that a species, a form, or what you please to call it, will or can, under our eyes, pass into a form of totally different physiological (and, unfortunately, we must add, pathological) capabilities."

If, however, air be allowed to enter, the results are altogether different. The fibres increase greatly in length, and often spores appear after forty-eight hours. The spores and fibres soon sink to the bottom of the glass—a watch-glass was used. The other Bacteria which the air has brought in, disappear; the characteristic smell is developed, and the supernatant fluid becomes quite clear. Dilution of the fluid with a moderate amount of distilled or spring water makes no evident difference; but a large quantity (*e.g.*, twenty times as much) kills the *Bacilli*. *Traces of carbolic acid prevent their development.*

Dampness, then, such as that to which either a body killed by Splenic Fever is exposed when buried to some depth, or left in fields, stables, or skinning yards, or the excreta of some sick animal, are exposed, does no harm to the Bacilli; while it hinders the evaporation of the nutritious fluids in which the *Bacillus* has done its harmful work. Further, it is certain, from repeated experiments, that mice injected with a fluid rich in *Bacilli anthracis* die after twenty-four hours; while a fluid which contains but few spores is quite as successful in three or four days. Let only spores be formed, and specimens of dried Bacilli will be as fatal four years after, as ever they were; but the fibres will not retain their activity for more than five weeks.

To these facts, thus rapidly recapitulated, let it be added that neither Koch nor Cohn has succeeded in producing Splenic Fever with any other species of *Bacillus*.

If these most interesting facts are exact, it is easy to explain the very diverse results sometimes obtained from inoculations with Anthrax blood. One experimenter will employ blood which has been rapidly cooled or dried, and consequently only contains dead *Bacilli*, incapable of reproduction. Another, on the contrary, uses blood which has been slowly dried at a somewhat high temperature, and in which the Bacteridæ have had time to develop and produce spores capable of germinating a long time after desiccation or putrefaction. We can also understand from these researches, how virulent serum or blood, capable of producing Anthrax Fever, may not contain a trace of Bacteridæ, or rather Bacilli; these have disappeared, after producing spores or sporules which are disseminated in the fluid, and will preserve their vitality for a long time.

That *Bacillus anthracis* can produce Splenic Fever when injected into the circulating nutrition of the body, is now abundantly clear. In addition to this, Koch tried whether the digestive or respiratory organs could be made the means of poisoning by this form. Mice and rabbits both ate either form of this species with impunity.* As to the results of the inspiration of them, nothing satisfactory was arrived at.

The results of Brauell's experiments on the influence of the filtering

* No fact is perhaps better established, than that the flesh or blood of animals which have perished from Splenic Fever is poisonous when ingested. The history of the disease teems with cases of poisoning in this way, and every kind of animal—but more particularly the Carnivora—is susceptible. In "Animal Plagues" and "Veterinary Sanitary Science and Police" we have given ample proof of this fact.

action of the placenta were confirmed. When a pregnant animal was inoculated with the Bacilli, its blood alone contained these organisms; and other creatures could be inoculated with the blood of the fœtus and suffer no injury,—a fact which is explained by the independence existing between the two circulatory systems.

To observe how soon the poison took effect, nine mice were simultaneously injected with it, and examined after two, four, six, eight, ten, twelve, fourteen, and sixteen hours respectively. No *Bacilli* were found in the first six; the spleen alone of the seventh was affected; in the eighth this organ was enlarged, and the *Bacilli* more numerous. The ninth mouse died of the disease after seventeen hours, the characteristic symptoms being present.

Two dogs, one partridge, and one sparrow, were injected with the poison, but no Splenic Fever ensued in these experiments; frogs also were not poisoned by the injection of fibres or spores of *Bacilli*. Koch describes, however, the changes which took place when a piece of spleen which contained them was placed under the skin.

To understand fully the ætiology of Splenic Fever, we must know much more than we now do. Can it be that ruminating animals cannot eat the spores with impunity, as rodents can? Why is it that these larger animals take days to die, while mice perish in thirty hours? These are questions asked of us; but the interrogator evidently forgets that non-ruminating, though vegetable-feeding animals—as the horse and other creatures—perish in the same manner as ruminants, and that one form of Splenic Fever—Splenic Apoplexy—is sometimes singularly rapid, especially in bovines.

A more appropriate question is that concerning the various influences exerted by different degrees of temperature, depth of sepulture, and humidity of soil, on the formation of the spores. It is a subject for congratulation that Koch has so distinctly shown that the fibres, as compared with the spores, are comparatively harmless. Let the spores remain dry for years, or in decomposing fluids for months; let them be repeatedly dried and as often wetted—still do they retain their baneful influence on living animal fluids. A wound, however slight, is sufficiently large to allow them to enter. Employ cotton wool to soothe a burn, and perhaps you are applying to yourself the seeds of the disease that will kill you; bathe in a stream in which the spores are resting, and a scratch will offer them a way into your system.

So much is quite clear. Quite as clear, unfortunately, is the enormous extent of their ravages. In one small Prussian district, £9,000 was lost by the death of sheep from this disease. In three years the district of Novgorod lost 56,000 horses and cattle, and 528 human beings.

The ordinary remedy has been to bury the victims deep in the earth; but the German veterinary surgeon, Oemler, has reduced the loss among sheep from 21 per cent. per annum to 2 per cent. by forbidding the burial of the victims in fields and meadows.

Koch thinks that the best way to get rid of this "destroying angel,"

is to utterly destroy all substances which contain *Bacilli;* though he fears that it is impossible to adopt so radical a measure. He is of opinion that much might be done by placing all affected bodies in a dry pit to which air could not have access, and at so great a depth as to have a temperature always lower than 15° (centigrade).

Prophylactic measures are to be especially directed towards the disease in sheep; as it is in them only that the malady is continuous; in other animals it appears only at intervals.

In concluding his interesting and valuable remarks, Koch draws attention to the similarity in conditions between this Splenic Fever, and Cholera and Typhus; and he expresses the hope that these two diseases may, with the advance of knowledge, be brought more fully under man's control.

While Koch in Germany has been so successfully pursuing investigations into the ætiology of this destructive panzoötic malady, Paul Bert, in France, has also been working in the same direction; but the results and deductions of the two do not quite accord. In a first series of experiments, Bert submitted Anthrax blood to the action of considerably compressed oxygen, and found that the *Bacilli* had disappeared—killed by the oxygen; and yet the blood retained its virulence, for it killed rabbits, guinea-pigs, and dogs inoculated with it. This circumstance might be explained, however, by Koch's researches; the *Bacilli* died from the action of the compressed oxygen, as they do from rapid desiccation, cold, or putrefaction; but their spores or germs may have resisted the oxygen, just as they resist drying, a low or high temperature, and putrefaction. They preserve their activity, and have power to induce Splenic Fever when they meet with favourable conditions on being transferred to the body of an animal.

In a second series of experiments, however, the results are more difficult of explanation by Koch's investigations. Taking some Anthrax blood containing *Bacilli*, drop by drop of absolute alcohol was added until it formed a *magma* or precipitate, which was dried in a vacuum. This dried powder was injected under the skin, and it killed a rabbit, a guinea-pig, and even a dog.

If this alcoholised *magma* is dissolved in water, and this is filtered, the filtrate is still virulent; if alcohol is again added to it, it forms a flocculent matter which is deposited at the bottom of the vessel. Collected on a filter and dried, this precipitate is still toxic. It would therefore appear that the active or virulent element of Anthrax resists absolute alcohol as it resists compressed oxygen; and that it is precipitable by alcohol and soluble in water. It behaves itself something like diastase, except that, whatever may be its nature, it can reproduce itself to an indefinite extent; while it is admitted by some authorities that a diastase cannot reproduce itself.

We are thus, between the two sets of experiments, landed where we were some years ago. Koch's conclusions point to Splenic Fever being due to a minute organism possessing wonderful powers of resistance and reproduction; Bert's, to something independent of the

presence or absence of animal or vegetable organisms, and which resists the action of compressed oxygen and absolute alcohol, which would, he asserts, kill everything possessing life—this something, he is of opinion, is a substance analogous to diastase.

We confess that we lean more to the conclusions of Koch than those of Bert; but the truth is gradually being evolved out of the obscurity which has so long reigned with regard to this important question; and as investigators are increased, and new means and methods of research devised, we shall hope soon to be furnished with definite conclusions as to the causation of a disease which presents so many features of absorbing interest for the pathologist.

THE RECENT HORSE PLAGUE IN EGYPT.

In the "Transactions of the Imperial German Board of Health" (*Veröffentlichungen des K. deutschen Gesundheitsamtes*, 1877, No. 13), we find some interesting particulars of the recent epizoötic *Typhus equinus* in Lower Egypt. In the Province of Daccalieh, where the Plague broke out in September, abated somewhat in October, and finally ceased at the beginning of November, it killed 4427 animals—viz., 2902 horses, 435 mules, and 1090 asses, in the space of sixty days. In Garbieh the disease broke out at the same time, but was not extinguished till the end of November. While it raged, 8989 animals succumbed, of which 5710 were horses, 768 mules, 2203 asses, and 308 camels. Among the last-named animals, but few cases occurred in any of the other provinces. In Menonffieh 31 camels, 803 horses, 65 mules, and 164 asses fell victims; while in the Province of Béhéré, where the Plague lasted longer than elsewhere, the losses were between 4000 and 5000 head of live stock. In Alexandria the disease was confined within narrower limits. From September 19th to December 1st, only 178 horses, 33 mules, and 39 asses perished, while the greatest mortality on any one day never exceeded ten.

Remembering that many cases must have escaped official recognition, owing to the bodies being at once thrown into the water or buried in the fields by their owners, it is probable that the total loss in the different provinces during the continuance of the epizoöty may be roundly estimated as follows:—

Cherkieh (July to October inclusive)	4700
Calionbieh (August to October inclusive)	2000
Daccalieh (September to October inclusive)	4500
Menonffieh (September to October inclusive)	1200
Garbieh (September, October, November)	9000
Béhéré (October and November)	4600
Cairo (August to November)	6500
Alexandria (October and November)	250
Coast towns: Suez, Rosetta, and Damietta (September to November inclusive)	450
	33,200

No further case having been observed since the beginning of December, the "Conseil de l'Intendance Générale Sanitaire d'Egypte," on January 25, 1877, officially declared the Plague extinct; and in so doing rescinded all the prohibitive restrictions which had been put in force during its prevalence.

THE CATTLE PLAGUE.

It would appear that the energetic steps at last adopted for the extinction of this scourge are likely to be attended with success. The earlier outbreaks which have occurred in and around London since our last issue, are given in the report of the Royal Agricultural Society, published in another part of the Journal. An outbreak has since been reported from Hull, in a dairy of five cows. No cases had been detected there for a period of six weeks, and we have not yet learned how the infection was conveyed. Another outbreak has also occurred in Whitechapel, London, in a dairy of five cows.

Important addresses have been delivered on the subject of Contagious Diseases by Professors Gamgee and Mayer, and public attention has been more than ever forcibly directed to this most important question.

At a recent meeting of the Metropolitan Board of Works, Mr. Richardson, in bringing up the report of the Cattle Diseases Committee for adoption, stated that the sum of £6457 had been awarded as compensation in respect of animals ordered to be slaughtered in consequence of being affected with Cattle Plague, or herded with animals so affected, so that it was most interesting, as it was a summary of the proceedings of the Cattle Diseases Committee since the disease first appeared. During that time 78 animals were attacked with Cattle Plague, 319 healthy animals being in contact with them. The diseased animals had been valued at £1733, and the others at £7454, by the valuer to the Board ; whilst the owners had valued them respectively at £2024 and £8893. On the principle by which compensation had to be paid, the amount was £6457, against which they had £3979 for sale of healthy animals, leaving the total loss at £2477,—a most congratulatory state of affairs. Reverting to the answer given by the President of the Privy Council in the House of Commons on Thursday as to the Cattle Plague at Hull, he thought it rather reflected on the Metropolitan Board and its officers, who had been superseded. They had been most successful in their efforts ; but if he was to tell them (the Board) all that had come to his knowledge as to the way in which it had been dealt with by the Privy Council, they would wonder Cattle Plague had not spread all over the Metropolis. The Privy Council officers had been frequently in error, and he could cite cases. The Board had really stamped out the disease, and where it had broken out since it was taken out of their hands was the fault of the Privy Council, and not of the Board. Mr. Munro seconded the resolution, which was carried. In calling attention to the copy of an order in Council, dated May 9th, 1877, directing the Veterinary Department of the Privy Council Office to slaughter every animal affected with Cattle Plague, or that has been in contact with any animal so affected, the local authority paying compensation for animals so slaughtered, Mr. Richardson said that a large number of animals had been slaughtered, and this was the first order that had been issued on the question. Unless the Chancellor of the Exchequer came to the aid of Professor Brown, who had given these orders for slaughter, he would probably be left in the lurch, and have to pay for them himself.

CONTAGIOUS FOOT-ROT IN SHEEP, MILK-SICKNESS, AND TEXAS FEVER IN AMERICA.

Some time ago, addressing ourselves to Professor Law on the subject of Contagious Foot-rot in sheep, and also as to the existence or prevalence of the so-called "Milk-Sickness," in the United States of America, the Pro-

fessor writes:—"In talking yesterday with the agent of the Vermont Wool-growers' Association, I obtained the information that, on the Green Mountains, the introduction of a sheep with Foot-rot into a healthy flock ensured the development of the disease in them in nine days."

Similar occurrences have been noted in Britain and on the Continent.

With regard to "Milk-Sickness," he states: "I am as anxious as you can possibly be to get some recent information on 'Milk-Sickness,' but my past unavailing search is not very encouraging for the future. I have been able to obtain nothing better than vague statements from some octogenarian as to what happened in his or her youth. All sorts of theories have been advanced, but at present I believe the disease is extinct, or nearly so. At all events, its present habitat appears to be undiscoverable, and places where it formerly prevailed are now reputed healthy. 'Texas Fever' has again prevailed this year (1876) in Michigan, New York, and Massachusetts, but only to a limited extent; and with the present promise of light morning frosts its yearly career is necessarily cut short."

The history of "Milk-Sickness" is interesting, and the pathology and etiology of the disease have long been obscure, and were often discussed in America by some of the most eminent medical men in the United States. During the last fifty years the malady has been observed in Tennessee, Kentucky, Illinois, Indiana, and elsewhere—it having been seen in North Carolina more than a century ago; and, according to Wood, it received its name from the supposition that human beings derived it through the milk of sick cattle. The same authority says that it followed emigration westward to Tennessee and Kentucky, and prevailed in various parts of Ohio, Indiana, and Illinois, where it is occasionally seen in the new settlements. It has been noted, as an interesting and most significant fact in relation to its locality, that it occurs only in places where the soil is still in its virgin state, and disappears immediately after cultivation. At one time it was supposed to owe its origin to cows feeding on certain poisonous plants—particularly the *Rhus radicans*, or poison vine.

The disease only occurs originally in the herbivorous animals—as the ox, horse, sheep, and goat; but it is transmitted to carnivorous animals—as the dog, cat, etc.—which feed on the flesh of the diseased creatures. Dr. Graff (*American Journal of Medical Sciences*, 1841), however, states that the hog is not susceptible; as he fed a sow for a fortnight on poisonous flesh which had killed dogs, and with no other effect than to fatten the animal.

It is stated that, at the commencement, the symptoms are not well marked, so that the milk and flesh of really diseased animals may be inadvertently used under the supposition that they are in good health. If, however, in this condition they are made to run rapidly, or to exert themselves violently in any other manner, they evince signs of the affection in muscular weakness and tremblings; and, if greatly over-fatigued, sometimes fall and die speedily in convulsions. If left undisturbed, an animal affected with the disease loses its appetite, walks about aimlessly, is inattentive to surrounding objects, the eyes are red and suffused; after a while it begins to stagger, trembles throughout the whole body, and at length falls, is seized with convulsions, and perishes. The trembling is so characteristic a symptom that the malady is known as the "trembles." In experiments on dogs, signs of the disease were observed in forty-eight hours after eating the poisoned food, and death took place in six days or earlier. Sometimes death has speedily ensued; and the young litter of a bitch which had been affected by consuming the diseased flesh quickly succumbed after sucking its milk. Vultures which have fed on the carcases of dogs that have thus perished have been fatally poisoned. When properly cooked the flesh appears to be innocuous.

In mankind the transmitted affection is very fatal when it assumes a malignant character, which is frequent, and the symptoms closely resemble those present in Anthrax Fever in the human species in our own country. Indeed, there can scarcely be a doubt that this so-called "Milk-Sickness" in animals is closely related to, if not identical with, Anthrax Fever.

Reviews.

An Introduction to Practical Histology. By George Thin, M.D. London: Baillière, Tindall, and Cox.

Of the great value of histology and microscopical research in anatomy, physiology, and pathology, every day gives ample proof; and the immense benefits already conferred by means of the microscope are but a tithe of those we have every reason to expect. The advantages to be derived from the use of this instrument are only beginning to be appreciated by veterinary surgeons, and before many years have passed away we trust that it will be a familiar aid in at least pathological research, and resorted to by every practitioner. The drawback, at present, to its being more frequently made available, is the fact that students have not hitherto had time to be instructed in its management, nor to acquire correct notions of those details with regard to the preparation of tissues or the use of re-agents, and other means upon a knowledge of which success in histology so much depends. Almost every day new processes and methods are being introduced, while old ones are modified or altogether relinquished, and perfection is slowly but surely being attained. Another cause, perhaps, which has operated in limiting the use of the microscope among veterinary surgeons and students, has been the absence of a handy, cheap, and trustworthy manual, embracing all the newest information in a moderate compass, and written in clear and concise language. The book before us can be honestly recommended as the very best of its kind which we have seen. It contains all the latest and most approved methods of preparation and observation, some of which are known to very few in this country, and described in such a manner that the beginner can have no difficulty whatever in understanding them and carrying them into practice; while to histologists of long experience they will prove particularly interesting and instructive. The work may be designated a manual of practical histology, and though intended more especially for the beginner, the views expressed on some points are widely different from some of those given in text-books on the subject. The histology of some of the tissues is given at considerable length, and well-drawn woodcuts are judiciously added. Dr. Thin's name is so well known as that of a most indefatigable, successful, and original worker in the field of histology, that it is a guarantee of the merits of his very excellent book. We must likewise give the publishers credit for their share of

the work, as the manual is well got up, and published at such a low price—five shillings—as brings it within the reach of the poorest student. This is by far the best text-book for the veterinary microscopist that has yet been issued.

American Veterinary Review. Nos. 1 and 2.

We hail with unfeigned pleasure the advent of a new literary venture in America, in the form of a *Veterinary Review*. The time had certainly arrived when our colleagues on the great and enterprising continent must bestir themselves, and find a means of testifying to their existence and their progress, as well as a medium by which to promote their welfare, express their wrongs, and obtain redress. The new journal commences under very favourable auspices, the editorship being assumed by Professor Liautard, who has as assistants Professors Large, Robertson, and Holcombe. In the second number it is intimated that it was intended to limit the publication to every half-year, and to that effect the first number was issued in January last; but we are happy to observe that a second edition has induced the editor to issue the journal monthly. From the manner in which the two numbers have been presented to the public, and the excellence and interesting character of their contents, we may safely predict a full measure of success to our young contemporary. It has our very heartiest good wishes, and we earnestly hope that its influence in promoting professional advancement in America may be great, durable, and unrestricted. We have now three veterinary journals in English-speaking countries: not long ago there was only one; and believing, as we do, in the value of healthy competition and generous rivalry, not less than in the wide diffusion of useful knowledge, we give a warm welcome to this trans-Atlantic bond of fraternity. The first number contains a well-written paper on the "History and Progress of Veterinary Medicine in the United States," by Liautard; "Zymotic Diseases," by Law; "Use of Stimulants in Diseases," by Holcombe; "On the Causes of some Chronic Lamenesses of the Foot," by Very; "Erysipelatous Cellulitis," by Thayer; and "Sanitary Measures," by McEachran. The second number has, as original communications, a paper by Large on "Endemic (Epizoötic?) Cerebro-spinal Meningitis in Brooklyn"; "Veterinary Education," by McEachran; "Effects of Cold," by Holcombe; while it contains editorial articles, abstracts from foreign journals, reports of cases, varieties and news, etc.

We allude thus lengthily to the *American Veterinary Review*, in order to testify to the high estimation in which we hold it, and to draw the attention of veterinary surgeons in this country to the valuable addition it makes to our scanty literature. It is well worthy of patronage by the veterinary profession in England as well as America.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

SPECIAL MEETING OF COUNCIL HELD MAY 1ST, 1877.

Present—Col. Sir F. Fitzwygram, Bart., President, in the chair ; Professor Pritchard ; Messrs. Batt, Collins, Dray, Duguid, Gowing, Harpley, Hunt, Moon, Moore, Naylor, Talbot, Withers, Woodger, and the Secretary.

The minutes of the last quarterly meeting were read and confirmed.

Letters, expressing their inability to attend the meeting, were read from Professor Walley, Mr. Cox, Mr. Greaves, and Mr. Fleming.

A letter was read from Mr. J. W. Moorland, of Staleybridge, drawing the attention of the Council to the fact that a man of the name of Crooks, who was not a member of the College, advertised himself as M.R.C.V.S.

The PRESIDENT said an official answer had better be sent, stating that the man was not a member of the College, and the only further step to be taken was to insert an advertisement in the local papers repeating that statement.

Mr. GOWING said, though the Council could not prevent a man from calling himself a veterinary surgeon, he thought they should seriously consider if something could not be done in the case of a person using the title M.R.C.V.S.

The following letters were read :—

(1) From Professor Axe, tendering his resignation as member of the Council, in consequence of the many other calls upon his time.

(2) From Mr. Glover, Stratford, one of the competitors for the Fitzwygram Prize, who had met with an accident, and was unable at present to undergo the final examination.

The SECRETARY said the other competitor was quite willing to wait until Mr. Glover recovered.

(3) From Mr. Bell, of Clonmel, and Mr. J. G. Truckle, of Salisbury, asking if members of the profession were exempt from serving on juries.

The SECRETARY said he had informed those gentlemen that there was no such exemption, but that an exemption clause had been inserted in the Bill now before Parliament.

(4) From Mr. Geo. A. Oliphant, of Hàpur, N.W. Provinces, India, acknowledging the honour of his election as a Fellow and stating that he would instruct his agent to remit the fee.

(5) From Mr. R. Ward, of Winchester, requesting to be informed when the first Fellowship Examination would take place.

Mr. HARPLEY suggested that a list of intending candidates should be kept.

The Secretary was instructed to reply that it was intended to hold an examination next July, if a sufficient number of candidates offered themselves.

The SECRETARY announced that letters had been received from Mr. Cartledge, Mr. Mayer, Mr. Hunt, Mr. Robertson, and Mr. Robinson, tendering their resignation as examiners ; and a letter from Mr. Richard Pritchard, of Wolverhampton, stating that on the re-election of the Board of Examiners it was his intention to accept office if re-elected.

A letter was also read from Mr. Birkett, who wished to be informed what alterations had been made in the examinations.

The SECRETARY stated that he had sent a copy of the Report of the Education Committee to Mr. Birkett, and informed him that a copy of the new Bye-laws would be sent in a few days.

Dr. DUNSMURE'S report of the "Pass Examinations" in Scotland was

read. It showed that at the Edinburgh Veterinary College six passed and six were rejected; that at the New Veterinary College, Edinburgh, fourteen passed and three were rejected; at the Glasgow eighteen passed and one was rejected.

The SECRETARY read the result of the "first examinations" held in Edinburgh April 16th and 17th: fourteen passed, and four were rejected; at that in Glasgow three passed, and two were rejected. The attention of the Council was directed to the fact that the Glasgow school had infringed the bye-laws of the College in presenting less than nine students for examination.

Mr. GOWING asked how that would affect the fees.

The SECRETARY said that there was a balance due to the College of £1 11*s.* 4*d.*

After a short discussion,

The PRESIDENT said the person who appeared to be most to blame was Dr. Dunsmure, and the only thing that could now be done was for the secretary to write to Dr. Dunsmure to ask why a Court had been assembled at Glasgow, when there was not the required quota of students.

The PRESIDENT proposed to add the word "Indifferent" to the terms that might be used by the examiners. He said that sometimes an examiner felt that a student had not done quite so badly as to prevent his passing, and in Scotland the letter "I" was used in such cases. If a student had two "I's," it was regarded as an equivalent to one "Bad." The Scotch Board had a strong feeling in favour of retaining the word "Indifferent."

Mr. HARPLEY said that amongst the examiners in Scotland there was a very great dislike to putting the letter "B" opposite any student's name, and he himself had a similar feeling. The President's proposal, however, did not do away with the right of the examiner to declare a student bad if he felt that he ought to do so.

Mr. HUNT asked if the word "Indifferent" was to supersede the word "Moderate."

The PRESIDENT said that "moderate" meant the same in England as "sufficient" in Scotland. "Indifferent" was something below "sufficient." The second part of his motion was that two "I's" should be equivalent to one "B," and should cause the rejection of a student.

Mr. DRAY seconded the President's motion, which was carried unanimously.

A letter was read from the Lord President of the Council, dated the 19th April, 1877:—

"SIR,—I am directed by the Lord President of the Council to inform you that a petition to Her Majesty in Council has been received at this office from the Royal Veterinary College praying for the grant of a Supplemental Charter, and I am instructed by His Grace to transmit to you, for any observations that the Royal College of Veterinary Surgeons may have to offer, the accompanying copy of the Charter prayed for, etc.

"Your obedient servant,

"C. L. PEEL."

The portions of the Charter in which the Royal College of Veterinary Surgeons was concerned were then read.

The PRESIDENT said, under the old Charter of the Royal Veterinary College, the Governors could only be elected from among the subscribers, and no veterinary surgeon was permitted to be a subscriber. The object of the Supplemental Charter was to allow veterinary surgeons to be placed on the Board. The Royal Veterinary College of their own good feeling had also taken measures to cancel the power which they had obtained

to create Fellows, as it was thought that that degree would interfere with the University rights of the Royal College of Veterinary Surgeons.

The Secretary read a letter, a copy of which had been submitted to the Parliamentary agent, Mr. Loch, in reply to the letter received from the Privy Council :—

"*20th April*, 1877.

"SIR,—I have the honour to acknowledge the receipt of your letter of the 19th inst., with the draft Supplemental Charter prayed for by the Royal Veterinary College enclosed therein; and in reply I am directed by the President and Council of the Royal College of Veterinary Surgeons to say that the draft of the proposed Supplemental Charter meets with their entire approbation, and that they have consequently no observations to make thereon."

The PRESIDENT said that the letter had been sent before obtaining the approval of the Council, but he presumed it expressed the general feeling. He apologised to the Council for the mistake which had been made in sending it before their approval had been obtained.

The letter was ordered to be entered on the minutes.

The auditors' report was then read, which showed that the balance at the bankers' was £478 3*s.* 10*d.*, the stock standing in the names of the trustees being £640 19*s.* 11*d.*

The PRESIDENT said from these accounts it was perfectly clear that the College was living beyond its income. The only legitimate income which they had was the difference between the Examiners' expenses, which amounted in round numbers to £800, and the examination fees, which amounted to £1134, *plus* £18, the interest on the invested money. The total income was therefore about £350. No doubt some of the expenses last year were casual, such as the expense in obtaining the Charter, printing the diplomas, etc.; but still it was plain from the items that the annual income was not sufficient to meet the expenditure.

Mr. GOWING suggested that a committee should be appointed for the purpose of taking into consideration the best means of putting the finances of the College in a healthy position.

Mr. HARPLEY expressed his approval of the suggestion.

Mr. NAYLOR proposed that the auditors' report be adopted and printed.

Mr. DRAY seconded the motion, which was carried.

The PRESIDENT proposed "That a committee be appointed to report on the best means of equalising the expenses with the income."

Mr. DRAY seconded the motion, which was carried.

Mr. BATT thought that, as this was a matter of great importance, the Council should form itself into a committee.

Several members of Council, on the other hand, expressed their opinion that a small committee worked better than a large one, and ultimately a committee was appointed, consisting of Messrs. Collins, Dray, Gowing, Harpley, and Withers.

The report of the committee which had been appointed to consider what means should be adopted to relieve the Secretary from the great pressure of business was read:—

"10, Red Lion Square, W.C.

"The expenditure in the present year, though restricted as closely as possible to what is absolutely necessary, appears to have exceeded the income of the Royal College of Veterinary Surgeons by a sum of £97.

"The Committee, therefore, have felt themselves unable to recommend any scheme which would involve any considerably increased expenditure.

"The Committee addressed themselves to an inquiry as to in what way the excess of work complained of by the Secretary could be reduced.

"The Committee have gone carefully over the books kept by the Secretary.

"The Committee think that the very considerable labour of making a *précis* of the proceedings of the Council may be avoided by adopting the shorthand writer's notes in lieu thereof.

"The Committee think the book containing the names or register of members is unnecessary, as the printed register, if kept up to date, is quite sufficient.

"The Committee think that the letter book might be restricted to such letters as are of any importance. On this point the Secretary differs, and thinks that the responsibility of selecting letters for preservation would exceed that of filing all letters.

"The Committee think that the second book or register of examinations with fees paid is unnecessary, as the necessary information might be given by adding an additional column to register No. 1.

"The Committee think that the work in the past year has been excessive, on account of the many matters of importance which have been under consideration; but they observe that the average number of letters does not appear to exceed 300 per annum.

"The Committee think that the suggestions which they have made will sufficiently reduce the labour; but that if towards the end of the year a pressure should occur on account of the voting papers, etc., an assistant clerk should be allowed for a month.

"F. FITZWYGRAM."

The SECRETARY said that he gladly availed himself of the suggestion with regard to the utilization of the shorthand notes as minutes of the Council; but he thought the Supplemental Charter would not permit the suggestion of the committee with regard to the register of members being carried out. The report stated that the number of letters sent out during the year had been 300, but it was really 396—such being the number actually appearing on the letter-book; but counting those not copied into the said book, the total was double that number. He had also recently to direct 1250 voting papers. He suggested that his hours of attendance might be fixed,—say from 10 to 5.

After some considerable discussion, Mr. DRAY moved and Mr. NAYLOR seconded a motion in accordance with the wishes of the Secretary, regulating his hours of attendance as from 10 to 5, and on Saturdays 10 to 1. It was understood that this regulation should not apply when there were committee meetings.

Mr. COLLINS proposed as an amendment, "That no alteration should be made in the present arrangement."

Mr. HARPLEY seconded the amendment, and on a division being taken the amendment was carried.

Annual Report.

The PRESIDENT said that the annual report had been drawn up by the Secretary, and had been read over by Mr. Dray and himself. He regretted that he had been unable to lay the draft of the proposed annual report before the Council, as it had been sent to Mr. Fleming and not yet returned, Mr. Fleming being in Scotland.

The SECRETARY stated that the report alluded to the following subjects:—A summary of the proceedings of the Council; the election of office-bearers; the application to the Government by the Highland and Agricultural Society for a charter to grant diplomas; the deputation to the Lord President; the Council's reasons for objecting to the Charter; and the decision of the Privy Council; the Supplemental Charter of the Royal College of Veterinary

Surgeons ; the alteration of title, and the granting of the same ; the amended Bye-laws ; the appointment of registrar ; the names of the elected Fellows ; the voting papers ; the "Cruelty to Animals Act" ; statement of attendance of members of the Council ; examinations ; new members ; the prizes ; college fund, and the subscription list ; the register of deaths ; presentations to the museum and library ; and the financial report.

Some discussion took place as to the best mode of procedure under the circumstances, and it was ultimately agreed to leave the matter in the hands of the President.

Mr. DRAY stated that he had arranged for the annual dinner to be held at the Freemasons' Tavern, tickets 23*s*. each.

The PRESIDENT stated that in the *Veterinarian* for April, page 226, "original research" was put down as the qualification of the Fellows selected for the Irish section of the committee. That was a mistake. The Irish section simply selected those members of the profession whom they thought most fit.

Notice was given by the PRESIDENT of his intention to move certain resolutions at the next meeting, and the proceedings then terminated.

ANNUAL GENERAL MEETING, HELD MAY 7TH, 1877.

THE thirty-fourth annual meeting of the members politic and corporate of the Royal College of Veterinary Surgeons was held by advertisement, and in accordance with the provisions of the Charter, on the first Monday in the month of May, being the 7th day thereof, 1877, at the College, 10, Red Lion Square, Holborn, London.

Present—Col. Sir Frederick Fitzwygram, Bart., President, in the chair ; Professors Pritchard, Walley, and Williams ; James Collins, Esq., Principal Veterinary Surgeon to the Army ; Messrs. G. Balls, G. Balls, jun., G. A. Banham, H. T. Batt, T. G. Batt, F. Blakeway, J. C. Broad, A. Broad, W. C. Bland, J. H. Brown, T. Burrell, B. Cartledge, A. R. Charles, C. Dayus, E. C. Dray, H. Dyer, J. C. Dwyer, E. P. Dwyer, G. Fleming, J. Fraser, W. Furnivall, J. Gerrard, J. Gibbs, A. L. Gibson, J. L. Gillingham, T. W. Gowing, T. W. Gowing, jun., T. P. Gudgin, James Hall, W. A. Harber, M. J. Harpley, J. Howard, R. L. Hunt, William Hunting, J. E. Jarvis, Thomas Jex, James Lambert, H. Lawrence, J. Leather, G. A. Lepper, A. J. Milne, James Moon, W. H. Moore, James Moore, James Moore, jun., Thomas Moore, J. Mosedale, J. Norris, I. Print, T. Poulton, W. Raddall, F. Ridler, James Rowe, F. G. Samson, C. C. Sanderson, W. Smith, F. Smith, W. W. Smart, H. L. Simpson, C. Steel, J. H. Steel, J. Storrar, J. Tatam, William Whittle, R. Ward, W. Wilson, S. H. Withers, Hicks Withers, Henry Withers, J. Woodger, J. Woodger, jun., W. Woods, and the Secretary.

The SECRETARY read the notice convening the meeting ; also the minutes of the previous meeting, which were confirmed.

The following gentlemen were appointed as scrutineers :—Messrs. Rowe, Thomas Moore, C. Steel, Banham, Helmore, Furnivall, Milne, and Charles.

A member of the profession asked if gentlemen whose names were not on the list were eligible for re-election as members of the Council.

The PRESIDENT.—"Clearly not, unless they are proposed and seconded."

The SECRETARY read the annual report.

Mr. DRAY moved the reception of the report.

Mr. MOORE seconded the motion.

Mr. FURNIVALL called attention to No. 50 of the amended Bye-laws, and asked whether a candidate for fellowship who had been educated at a public school, and afterwards attended lectures at King's College or the London University, though not graduating in arts, would be eligible.

The PRESIDENT said he would not be eligible unless qualified according to the Bye-law.

The SECRETARY read Bye-law 50: "Each candidate, other than a Professor or ex-Professor at a school affiliated with the Royal College of Veterinary Surgeons, will be required to produce a Certificate of Graduation in Arts at a University to be recognized for this purpose by the Council, or a Certificate of Liberal Education after an Examination by the College of Preceptors, under the direction and supervision of the Council."

One of the gentlemen present asked if Mr. R. Pritchard and Mr. J. W. Axe were eligible for re-election.

The PRESIDENT said those gentlemen were not eligible. They were both present at the Council when the laws were made, so that there was no hardship in their case. In fact, he presumed that they did not wish to come on the Council again, as they were not proposed and seconded according to the rule.

Mr. ROWE called attention to the balance-sheet, and said there had been a gradual increase in the expenses. In 1873 they amounted to £1200; in 1874 to £1300; in 1875 to £1400; and in 1876 to nearly £2000. The law expenses had considerably increased, and he hoped they had reached their maximum. On the whole, he thought there was ground for congratulation at the improvement in the position of the profession during the past year.

The PRESIDENT said there could be no doubt that the expenses had increased. During the present year they had increased in consequence of the Charter and the Fellowships: indeed, the expenses were annually exceeding the income, and the Council had appointed a committee to look into the matter, and see how the income and expenditure could be equalized.

Mr. HUNTING said the profession had now entered upon a new era; the old lines had been broken down, and they now commenced with a new Council, in whose hands the whole regulation of the profession would remain for four or five years. The method of electing the Council had been rashly altered without giving fair notice to the profession. Even members of the Council did not know whether the balloting papers would be used this year or not; and many members thought it would only be fair to allow old members of Council to be proposed at the meeting, as on former occasions. The election of members by ballot had given advantage to provincial members; and he understood that in four or five of the northern towns of England the members of medical associations had united so as to secure the election of three or four of their number. All was said to be fair in war and in elections. At the same time, as one of the metropolitan members, he protested against the unfair advantage given this year to the provincial members. It would not occur again, because the London members had a little "caucus" of their own, and might be able to secure the election of one or two members of the Council. With regard to the election of Fellows, it seemed to be a question whether there was any advantage in being a member or not. Thus far those members had been elected who had been known for a number of years, and had been tolerably prominent in the profession; but some rather stiff rules had been adopted to prevent any but scientific or educated men from becoming Fellows. A great number had been admitted up to the present time who were neither scientific nor educated, and never would be. If a number of men had been elected as Fellows for their business capacities and services, and if the position had been a little more open to other men, he could have better understood it. He supposed that he himself would be saved the examination, as he believed he was an ex-Professor. It appeared that an examination by the College of Preceptors was provided for by one of the Bye-laws, but that examination was but little better than the fourth standard of the School Board, so that

there could be no difficulty whatever in passing it. The principal objection which he had to the arrangements for the election of Fellows was the charge of fifteen guineas, but he supposed that could not be altered. Reference had been made to the Cruelty to Animals Act, which he thought might be made use of to prevent the performance of operations by farriers. Not long since, the Society for the Prevention of Cruelty to Animals tried to punish a man for burning the lampas, but they failed to convict; the conviction, however, he thought, might be obtained under the Vivisection Act. With regard to the Register, he would suggest the omission, at the end of the names, of such words as "London," "Glasgow," "Albert,"—there being no bodies corporate so called. There was no great objection to showing where a man had passed his examination—as in Edinburgh or London; but that was superfluous, for it was the same Examining Board. It enabled a man to put a nonsensical string of letters to his name, as M.R.C.V.S.L. On the whole, since the last meeting the profession had advanced, and he hoped that it would continue to do so even more rapidly.

Mr. GOWING said he thought a great deal had been done in obtaining power to grant fellowships, inasmuch as they conferred honour not only on those who possessed them, but on the whole profession. He had no doubt that Mr. Hunting would obtain a fellowship, and it would give the present Fellows great pleasure to have him enrolled among them. Degrees had been given by some of the schools to practitioners, but they were of no practical use. As soon as it was ascertained that such degrees were granted, it became necessary for the College to obtain power to give a degree that would be really valued by the possessor. The members were all greatly indebted to the President for his disinterested labours, and he desired individually to thank him for all his exertions.

The PRESIDENT said he thought the Council could hardly be accused of acting rashly in the matter of the voting papers, for it was a subject of consideration last year before application was made for the new Charter; indeed, that was one of the principal points at which the Charter aimed, according to the decided wish of the profession; and if it resulted in the return of a certain number of provincial members, that would also be the desire of the profession, and in a great measure the object for which the papers were instituted. With regard to Mr. Hunting's objection as to the selection of Fellows, no doubt the object of the clause in question was to admit men who might not perhaps be able to pass a modern scientific examination, but who combined high character, professional standing, and good practice; and he thought none of the profession ought to regret that the clause had been so worded and so used as to elect those gentlemen as primary Fellows. Mr. Hunting, as a younger man, would no doubt qualify himself, and pass with very great credit to himself, and become a credit to the profession generally. When Mr. Hunting stated that the examination of the College of Preceptors was a farce, and only fitted for a schoolboy, he must have spoken without due inquiry. The College of Preceptors was a general examining body, and would give a first-class examination, equal to the highest degree of the London University, or to the Oxford or Cambridge Middle Class Examination, down to the lowest class that might be desired; but it rested with the Council to select the standard on which the College should be asked to examine. With regard to the increase of expenses over income, the Council had appointed a committee to inquire into the matter and to suggest a remedy. There was no doubt of the fact, that of late years the expenditure had exceeded the income. The cause of the increased expenditure lay in the cost of two examinations for each student instead of one; and this source of expense was likely to increase under the new system of three examinations. It was a matter for most serious consideration.

Mr. WILSON desired to make an explanation with reference to the announcement of the death of Mr. Beeson, of Amersham, which had been made on his authority. He had informed the Secretary, in good faith, that he believed that gentleman was dead, but asked that the statement might be verified before being acted upon. Living, as he did, near Mr. Beeson, the Secretary no doubt thought he ought to know. He regretted that when attention was called to the matter at the meeting of the Council the opportunity was not given to him to correct the mistake and express his regret in the same number of the *Veterinarian* as that in which the report of the Council meeting appeared. He desired now to say that he regretted exceedingly that he should have been the means of the mistaken announcement being made.

The SECRETARY said no doubt Mr. Wilson would remember stating to him that he ought to know the fact, because some one had succeeded Mr. Beeson in his business.

Mr. SMITH (of Norwich) thought that an unfair attack had been made upon provincial members by Mr. Hunting, but he desired to say on their behalf that they were not so inefficient and uneducated as Mr. Hunting seemed to regard them.

Mr. HUNTING said he had not in any way sought to depreciate the provincial members, for whom he had the greatest respect; he only complained of what he thought was the unfair advantage given to them in reference to the balloting papers.

Mr. SMITH said that no such organization as Mr. Hunting had referred to existed in the eastern counties.

Mr. WILLIAMS thought that Mr. Hunting, instead of depreciating the provincial members, had indirectly complimented them for their shrewdness in organising themselves for the purpose of securing the election of their candidates.

Mr. DRAY moved the adoption of the report.

Mr. HELMORE, in seconding the motion, congratulated the members upon the efforts made by the Council for the advancement of the profession generally. In order to keep themselves above the Board Schools, it was necessary to be actively at work, and the Council had been anticipating the necessities of the profession in a most creditable way. He thought that some steps should be taken to let the public know what had been accomplished in advancing their position as members of a liberal profession.

The result of voting at the election of members of Council was as follows, viz. :—

Mr. Peter Taylor . .	560	Mr. Robert L. Hunt.	301
„ John Cuthbert . .	484	„ William Smith .	211
„ Richard Reynolds .	458	„ Thos. D. Lambert	154
„ Francis Blakeway .	440	„ Martin E. Naylor	154
„ Benjamin Cartledge .	410	„ Tom P. Gudgin .	150
„ Matthew J. Harpley .	379	„ James Lambert .	145
„ James Collins . .	339	„ George Williams.	111

Messrs. Taylor, Cuthbert, Reynolds, Blakeway, Cartledge, Harpley, Collins, and Hunt were declared duly elected. The President decided by lot, in accordance with the provisions of the Charter, that Messrs. Hunt and Collins fill the vacancies caused by the deaths of Mr. John Wilkinson and Mr. Wm. Field, jun.

The meeting terminated with a vote of thanks to the President for the very efficient services he had rendered to the Council during the past year.

In the evening the annual dinner took place at the Freemasons' Tavern,

when nearly eighty members of the profession were present. Among the guests were Lord H. A. G. Somerset, Sir C. S. Paul Hunter, Bart., and Col. Kingscote, C.B., M.P. Lord Waveney had signified his intention of honouring the dinner by his presence, but he was unfortunately detained by his parliamentary duties. It is unnecessary to mention that, under the auspices of our worthy President, the gathering could be nothing but a congenial one.

CENTRAL VETERINARY MEDICAL SOCIETY.

AT an ordinary meeting of the above Society, held Thursday, April 19th, at 10, Red Lion Square, W.C., at 7 p.m., Mr. Thos. Burrill in the chair,—

Mr. WOODGER, sen., in bringing forward a case of fractured tibia, said such fractures were not unusual, but the following case was interesting, being from a six-year-old Flemish mare working in a 'bus. An accident happening, she began kicking, and got her legs between the splinter bar and wheel. When sent to the infirmary she was hardly lame at all; there was a superficial wound inside the tibia; being tied up, this was attended to, and got on well, but she was not worked again for some four weeks, when she was put in a straw van previous to resuming work the next day, and the following morning was found with a broken leg. The question arose whether it was done in the box (a large one), or at the time of the accident, a month and three days prior. He had known instances of horses being kicked walking sound and yet indicating a broken limb the next day; here there was no inflammatory swelling.

Mr. SHAW had had a similar case in the cattle market, where there was but little swelling; this was attended for three weeks, then sent home, and a fracture of the tibia noticed next day; he dated it from the accident.

Mr. T. J. MAVOR was of opinion that a large number of fractures occur the same way which are never suspected, and heal from the rest afforded. He considered the fracture took place when the accident happened, and from its appearance there was not much disposition to throw out bony matter and reunite, as there was no deposit.

Mr. HOWARD and the Secretary concurred in the above opinion. Mr. Howard, looking at the fact of no deposit being present, considered it an instance of *fragilitas ossium*. In a similar case the horse was led out the subsequent day to examine it and ascertain the seat of lameness, when the bone collapsed in five places, laying the animal on the side, and it had to be killed on the spot. The Secretary showed that part of the fractured edge was rounded off from absorption, and not attrition.

Mr. F. SMITH considered the strength of the *fascia lata* had temporarily prevented displacement.

The CHAIRMAN held this case was unusual, as there were four pieces of bone here; he rather inclined to the belief that it had happened during the night. As an agenda to his remarks, Mr. Mavor was inclined to believe it became comminuted in falling when being destroyed.

Mr. THOMAS MOORE, in introducing a method of keeping firing-irons hot, said this was a French invention, and had been described at the Academy of Science, in France; being introduced to the English veterinarians by Mr. Mayer, of Great Portland Street, who had attended with him to describe it. Mr. Mayer said a small bottle of benzine would suffice for half a day to keep the irons red hot: being first slightly warmed in a flame of spirit, gas, etc., their heat was augmented by a vapour of benzine projected through an anæsthetic apparatus more or less rapidly as required; it was composed of platinum, and could be of any size or shape—the expense of that shown being £5 5*s.*: unless platinum were used the agent would burn away.

It was the general impression of the Fellows that the apparatus was very ingenious and serviceable, but that the cost would militate against its use; and that in London, or towns generally, we had facilities for keeping to the present method, while for country practitioners it would be of more service.

Mr. FRED. SMITH then read his paper on Amaurosis, in the treatment of which, when caused by local injury, he advised purging and bleeding, fomentations with belladonna lotion, and the internal administration of calomel 3j et opii 3ss. In cases of Sympathetic Amaurosis, the result of chronic inflammation, or disorganization of the opposite eye, he suggested hypodermic injection of strychnia 1 gr. twice daily, over the orbital process, gradually increasing the quantity, or sprinkling it over the blistered surface. In cases ascribed to vascular exhaustion he suggested tonics, the iron preparations, and blistering at the orbit. In the discussion

Mr. MAVOR said he agreed with Mr. Smith that, when called in, it was mostly too late to do anything in the hope of a successful issue. He could not accept his views of treatment. In the medical profession he knew calomel was usually prescribed; but he did not know why, as the drug acted physiologically on the skin and glandular structures. Now, in cases due to injury, where a clot might be suspected, he would advise aconite; in chronic cases, when it was important to restore the function of the coats of the vessels, he advised ergot, because of its specific action.

Mr. HOWARD had met with a good number of cases in Cincinnati, especially amongst mules, with which it prevailed most; it is there looked upon as hereditary. The mules, the subjects of Amaurosis, are kept for sawing wood; they are put in the fore-part of a cart which is in a slanting position, the bottom being movable, and passing over rollers communicating with wheels turning a circular saw. He did not believe mercurial drugs were indicated; but preferred those of a tonic and neurotic character, and to promote the general good health of the animal. Considered the liver and stomach often implicated in eye disorders; if a man suffers from a disordered liver he complains of imperfect vision, and sees motes in the air. Sudden vertigo has often followed from the same cause.

The CHAIRMAN held that, from the variety of causes, no single line of treatment could be followed out; he believed the disease occasionally due to mal-nutrition of the optic nerve.

Mr. SMITH having replied,

Mr. MAVOR directed attention to a drug recently introduced into practice —the bromo-hydrate of conia. Finding that conia itself gave rise to an immense amount of irritation of the skin, he applied to Messrs. Morson, of Southampton Row, for a salt of conia, which after some time was obtained —from France, he believed. It is more convenient for hypodermic injection than conia, its effect being the relaxation of the voluntary muscles and drooping eyelids, etc. He gave it in two 5-gr. doses, at interval of six hours, in Tetanus; 6 grs. set up the effects of conia.

The meeting then adjourned. *Present*—11 Fellows and 1 Visitor.

JAMES ROWE, JUN., *Hon. Sec.*

EDINBURGH VETERINARY COLLEGE.

AT the meeting of the members of the Dick Trust, held in April, the prizes were delivered to the students attending the College, and who had been successful in the competitions. These were :—The Dick Trust Gold Medal for the Best Student of the Session—Archibald Baird. Dick Trust Silver Medal for Great Merit—Charles Gelderd. Highland and Agricultural Society's Gold Medal for the Best Practical, and Gold Medal for the Best

General Examination (open to all the schools)—Archibald Baird. Highland and Agricultural Society's Silver Class Medal for the Best Examination in Chemistry, Botany, Horse Pathology, and Physiology—Archibald Baird.

Materia Medica and Anatomy—Charles Gelderd.

Cattle Pathology—Joseph Oswald Martin.

Edinburgh Veterinary Medical Association Silver Medal for the Best Essay of the Session—William Reekie : subject, "Epizoötic Aphtha."

Certificate of Merit for the Second-best Essay—Thomas Young : subject, "Influenza in the Horse."

Certificate of Merit for the Best Preliminary Examination, Sessions 1875 to 1877—Thomas Peter Young.

GLASGOW VETERINARY COLLEGE.

THE winter session at this institution terminated on Thursday last, and on Friday and Saturday the oral examinations of the Royal College of Veterinary Surgeons were conducted within the Museum of the College. The candidates for diploma were also subjected to a rigid practical examination, conducted on horses, cattle, and sheep selected and brought to the College for that purpose.

The Board of Examiners included the following gentlemen :—Professor Allen Thomson, Glasgow University, president; Professor Alexander Dickson, Glasgow University; Professor Crum Brown, Edinburgh University; Dr. Dunsmure; J. Harpley, Esq., F.R.C.V.S., London; George Fleming, Esq., F.R.C.V.S., London; William Robertson, Esq., F.R.C.V.S., Kelso; Alexander Robinson, Esq., F.R.C.V.S., Greenock; B. Cartledge, Esq., F.R.C.V.S., Sheffield.

The following gentlemen were also present as *ex-officio* members :—Principal M'Call, Professors Knox, Cooke, M'Gill, and Skirving, Veterinary College, Glasgow.

Nineteen gentlemen presented themselves for their final professional examination, and eighteen passed very creditably, and were awarded the diploma of the Royal College of Veterinary Surgeons. Their names were given in our last issue.

Medals given by the Highland and Agricultural Society of Scotland, and certificates of merit granted by the College, were awarded in the different branches of study as follows :—

Horse Pathology (Written Examination).—Medallist : James Macqueen; 1st Class Certificate : James Wilson, George Gair, F. J. Insall; 2nd Class Certificate : David Thomson, Thomas Robertson, John Gray, John Pollock, D. M'Farlane.

Cattle Pathology (Written Examination).—Medallist : George Gair; 1st Class Certificate : James Macqueen, F. J. Insall, James Wilson; 2nd Class Certificate : John Gray, Thomas Robertson, John Pollock.

Histology and Physiology.—Medallists : James Wilson and James Macqueen; 1st Class Certificate : David Thomson, F. J. Insall, Thos. Robertson, John Pollock, D. Macfarlane; 2nd Class Certificate : George Gair, Clayton Hingston, D. Sinclair, John Gray, H. A. Woodroffe, R. M'M. Banks.

Practical Examination of Cattle and Sheep as to Age, Operations, Soundness, etc.—Medallist : Donald Macpherson; 1st Class Certificate : John Pollock, James Wilson, D. M'Farlane, John Gray, John Buntain; 2nd Class Certificate : W. F. Houston, A. Martin, James Macqueen, George Gair.

Practical Examination of Horses as to Soundness, Age, etc.—Medallist : James Wilson; 1st Class Certificate : John Pollock, A. Clarke, D. Macpherson, John Gray, John Hingston; 2nd Class Certificate : D. Thomson, W. F. Houston, A. Martin, D. M'Farlane.

Best Oral Examination on all subjects.—Principal M'Call's Gold Medal awarded to James Macqueen.

At the close of the examination the President intimated that the candidates for admission to the profession had acquitted themselves in a most satisfactory manner, and the fact of only *one student out of nineteen* having failed in obtaining the diploma of the College bore ample testimony to the care, labour, and knowledge displayed in the tuition of the students of the Glasgow Veterinary College. Professor Thomson also intimated that, in accordance with the resolution of the Council of the Royal College of Veterinary Surgeons, Messrs. Macqueen, Wilson, Insall, Banks, and T. Robertson, had obtained such distinction in all the subjects of examination as to entitle them to the "honorary degree," and that the Secretary (Dr. Dunsmure) would notify this to the Council in London.

NEW VETERINARY COLLEGE, EDINBURGH.—PRIZE LIST.

MEDALS presented by the Highland and Agricultural Society of Scotland:—

Horse Pathology.—Medallist: W. R. Lewis; 1st Certificate of Merit: George Marshall; 2nd Certificate of Merit: Alexander Bain.

Cattle Pathology.—Medallist: Alexander Bain; 1st Certificate of Merit: George Marshall; 2nd Certificate of Merit: Frederick Glass.

Physiology.—Medallists: Thomas Cowan and H. T. Hodgkinson, equal; second medal was given by Dr. Young.

Medal given by Dr. Stevenson Macadam for Chemistry.—Medallist: T. H. Lewis; 1st Certificate of Merit: William Atkinson.

Medal given by the Principal for best Anatomical Preparations.—Medallist: William Atkinson.

Seventy-three students attended the classes during the session just closed. Seventeen presented themselves for the diploma of the R.C.V.S., and of these three were relegated to their studies.

ONTARIO VETERINARY COLLEGE.

THE examinations at this institution were concluded last April. It was stated by one of the speakers that this College was probably the first of its description on the American continent, and it is, therefore, not out of place to give the names of the staff of Professors: Professor Smith, V.S., Principal; Dr. Thorburn, Dr. Barrett, H. H. Croft, D.C.L., Professor Buckland, and J. T. Duncan, V.S. The Examining Board were: Mr. Gowan, V.S., Galt; Mr. Coleman, V.S., Ottawa; Mr. Wilson, V.S., London; Mr. Sweetapple, V S., Whitby; Dr. Thorburn; Dr. Barrett; Mr. Duncan, V.S., Goderich; and Mr. Cesar, V.S., Port Hope.

Dr. SMITH read the following report, which was received with cheers:—

Graduates.—Henry Hopkins, Green River, Ontario; M. H. McKillop, Chicago, Illinois; G. W. Bates, Wellington, Missouri; Herbert Hamilton, Toronto; M. L. High, Bayham, Ontario; R. W. Newton, Belleville, Ontario; E. Kenning, Elmira, Ontario; W. Langtry, Bronte, Ontario; M. Stalker, Ames, Iowa,; E. S. Rogers, Bradford, Ontario; D. Stovel, Mount Forrest, Ontario; R. A. Harding, Kingston, Jamaica.

For Primary.—A. Stephenson, Cobourg, Ontario.

Record of Examinations at the Ontario Veterinary College, Toronto.

Anatomy (Juniors).—William Jex, Brantford, Ontario, first prize; Henry Setterby, Seneca Falls, N.Y., second prize; John V. Newton, Orillia, Ontario, third prize. Honours: G. Falls, Ottawa, Ontario; G. P. Henman, Colborne, P.O., Ontario; A. N. Smeall, Toronto.

Anatomy (Seniors).—G. W. Bates, Wellington, Missouri, first prize; R. W. Newton, Belleville, Ontario, second prize. Honours : W. Langtry, Bronte, Ontario ; M. Stalker, Ames, Iowa ; D. Stovel, Mount Forrest, Ontario ; M. L. High, Bayham, Ontario.

Horse Pathology.—R. W. Newton, Belleville, Ontario, silver medal. Honours : G. W. Bates, Wellington, Missouri ; R. A. Harding, Kingston, Jamaica ; M. L. High ; M. Stalker.

Cattle Pathology.—G. W. Bates, first prize. Honours : R. A. Harding and R. W. Newton, equal ; H. Hopkins, Green River, Ontario ; M. L. High, M. Stalker.

Entozoa.—M. L. High, first prize ; H. Hopkins, E. S. Rogers, Brantford, Ontario, R. W. Newton (equal), second.

Principles of Shoeing.—M. H. McKillop, Chicago, Illinois, first ; G. W. Bates, second.

Chemistry.—G. W. Bates, first ; W. Stalker, second ; W. H. McKillop, third ; R. W. Newton, fourth ; H. Hamilton, Toronto, fifth.

Physiology.—G. W. Bates, first prize ; W. H. McKillop, honours ; R. W. Newton, R. A. Harding, W. Langtry, E. S. Rogers.

Medicine.—G. W. Bates, first ; R. A. Harding, W. H. McKillop (equal), second.

Breeding of Domestic Animals.—G. W. Bates, R. A. Harding (equal), first ; David Stovel, second.

Gold Medal for Best General Examination.—G. W. Bates, Missouri.

The Hon. Mr. MOWAT, in brief and felicitous remarks, presented the medals to the winners—namely, the gold medal to Mr. G. W. Bates, Missouri, and the silver medal to Mr. R. W. Newton, Belleville, Ontario.

The session just closed is marked as the most successful in every respect that has been held in the Ontario Veterinary College.

MONTREAL VETERINARY COLLEGE.

ON March 29th, the distribution of diplomas and prizes to the successful graduates of the year took place in the Veterinary College, Union Avenue. Among those present we noticed, in addition to the examiners presently named, the Council of Agriculture represented by the President, Mr. J. M. Browning, Mr. A. Somerville, and George Leclerc, M.D., Secretary. There were also present, G. W. Campbell, M.D., LL.D., Dean of the Medical Faculty, McGill College ; Dr. H. Peltier, Professor of Physiology, Victoria College ; Dr. D'Orsonens, Professor of Chemistry, Victoria College, the Professors of the College, etc., etc.

The Board of Examiners appointed by the Council of Agriculture consisted of Dr. Tetu, Dr. Leclerc, Alexander Waddell, M.R.C.V.S., Quebec ; James Going, V.S. Edin., New York ; Williamson Brydon, V.S., Boston, Mass. ; T. A. O. Coleman, V.S., Ottawa ; Archibald McCormick, V.S., Beauharnois ; Charles Levesque, V.S., Berthier, P.Q. ; J. A. Couture, V.S., Montreal, and C. J. Alloway, V.S., Montreal.

The results of the examinations were as follows :—

Zoology.—J. W. Dawson, LL.D., Professor ; Isaac J. Miles, Charleston, Ill. ; Charles Winslow, Rockland, Mass. ; H. J. McMartin, Montreal ; Alphonse Levesque, Montreal ; and D. Lemay, Board-a-Plouffe, P.Q.,—all passed. Of the first year students, three of the French and one of the English Class were not examined.

Chemistry.—R. Craik, M.D., Professor. Out of seven four only presented themselves, and passed a most creditable examination : Mr. C. Baker, Dunham, P.Q. ; F. W. McLellan, Bridgeport, Conn. ; D. S. Brown, Genoa, Ill. ; M. L. Secton, Montreal.

Physiology.—William Osler, M.D., Professor. Out of eight, five only presented themselves and passed, Mr. Baker especially obtaining a high percentage of marks, being fourth out of thirty competitors : Mr. C. Baker, Dunham, P.Q. ; F. W. McLellan, Bridgeport, Conn. ; D. S. Brown, Genoa, Ill. ; C. C. Lyford, Roscoe, Ill. ; M. L. Secton, Montreal.

Veterinary Materia Medica.—O. Bruneau, V.S., Lecturer ; M. C. Baker and F. W. McLellan, both availed themselves of the option of going up for examination on this subject, and succeeded in passing.

The final examinations for the diplomas comprised Veterinary Anatomy, Veterinary Medicine and Surgery, including the diseases of horses, cattle, and sheep, Canine Pathology, and Veterinary Materia Medica. Seven candidates presented themselves who had attended the required three full sessions regularly and had passed the primary examinations, and being successful in passing this searching ordeal, were admitted as members of the profession, viz. :—James R. McLaughlin, of Watertown, Mass. ; C. C. Lyford, Roscoe, Ill. ; D. S. Brown, Genoa, Ill. ; John F. Ryan, Montreal ; William B. Hall, Leeds, Megantic, P.Q. ; Servil Hebert, Napierville, P.Q. ; and William Murphy, Boston, Mass. The competition for prizes was by written examination, and resulted as follows :—First prize (silver medal), the gift of the Council of Agriculture, won by James R. McLaughlin, Watertown, Mass. ; second prize, won by C. C. Lyford, Roscoe, Ill. ; third prize, won by D. S. Brown, Genoa, Ill. ; honourable mention, John F. Ryan, Montreal.

Second Year Students.—First prize won by Malcolm C. Baker, Dunham, P.Q. ; second prize won by F. W. McLellan, Bridgeport, Conn., U.S.

Mr. Lyford obtained a special prize for anatomy and general proficiency.

ROYAL AGRICULTURAL SOCIETY.

AT the monthly meeting, held on May 2nd, Lieut.-Gen. Viscount BRIDPORT presented the following report of Professor Brown :—

" Immediately after the last meeting of the Council of the Royal Agricultural Society a deputation from the Society, and another from the Shorthorn Society, had an interview with the Lord President, on the subject of the action which had been taken by the local authorities in dealing with outbreaks of Cattle Plague. Both deputations urged the importance of immediate interference on the part of the Privy Council, in order that uniform and consistent regulations might be applied, at least to that part of the country where Cattle Plague had prevailed. In accordance with these representations an Order of Council was passed, which came into operation on April 16th. Under the provisions of this Order the Privy Council has dealt with the outbreaks of Cattle Plague which have occurred since it came into force.

" As soon as the Order was passed, inspectors were appointed for the purpose of making inquiries as to the sanitary conditions of the stock in the Metropolis and its suburbs, and arrangements were made for the slaughter of diseased animals, and the burial or destruction of carcases ; also the slaughter of animals which had been in contact with diseased beasts, and the burning or destruction of manure, offal, and hides, so that nothing but the meat of healthy animals should be removed from an infected place. On this point it may be remarked that no animal was to be deemed healthy which had a temperature indicative of the febrile state. Notwithstanding this precaution, however, several carcases were condemned as unfit for food, owing probably to the rough method of dressing, and the poor condition of the animals. It should be stated that the officers of the Privy Council have no power to condemn carcases on the ground of the meat being unfit for human

food ; and for this reason the medical officer of the district has been asked to inspect them before removal, when it could be done without causing great delay. Arrangements were also made to prevent, as far as possible, the conveyance of the poison of Cattle Plague out of infected places by the agency of persons and things which had been employed about diseased animals.

"The butchers employed have been disinfected before leaving the premises, and the inspectors have instruction to wear waterproof clothing when engaged about places where Cattle Plague exists, and to thoroughly disinfect their clothes before quitting infected places.

"As soon as an inspector, in the course of his inquiries, discovers Cattle Plague, he is confined for the time to the infected place, and after his work there is completed he is instructed to change his clothes completely before engaging in any other inquiry ; and, in addition, he is required to properly disinfect the clothes which he wore when working in the infected place. Further, each inspector is instructed not to enter premises without the consent of the person in charge. It must be obvious that many difficulties have had to be surmounted in the attempt to organise a new system of action on a very short notice ; but I do not hesitate to assert that the inspectors, under the direction of Mr. Courtney, Captain Tennant, and Mr. Ricketts, have done all that could be done to carry their instructions into effect in reference to the slaughter and disposal of animals, the disinfection of premises, and the supervision of stock in the districts where the greatest danger of the spreading of diseases existed.

"The following cases of Cattle Plague have been reported since the Order of April 12th came into operation :—On Tuesday, April 17th, a cow and two calves were found to be suffering from the disease in a shed at Willesden, near the premises in which the first outbreak in that district occurred ; the animals were slaughtered, and buried the same day. On Saturday, April 21st, the disease was detected among a herd of forty-nine cows and thirteen calves, at Harlesden Green ; one cow had died before the chief inspector (Mr. Cope) arrived, and, several others being found to be infected, all the animals were slaughtered by the following morning.

"On Sunday, April 2nd, Cattle Plague was detected in a dairy in Ledbury Mews ; all the cows in the shed, thirteen in number, showing signs of disease. In this case also the slaughter of the animals was carried out as quickly as possible.

"On Monday, April 23rd, the disease was discovered in a herd of seventy-five cattle at Kensal Green ; and soon afterwards another and larger herd of over 130 animals was attacked in the same district.

"On Wednesday, April 25th, another herd of cows, thirty-eight in number, in Ledbury Mews, was attacked, and several of the animals were found to be diseased when the first inspection was made. In all the cases referred to the slaughter of the entire herd was directed.

"On Tuesday, May 1st, information of the existence of Cattle Plague in a cowshed at Stoke Newington was communicated to the Veterinary Department, and the chief inspector found several animals giving decided evidence of the disease. The slaughter of the whole herd (forty-nine in number) was immediately ordered.

"Three important Orders of Council will come into operation on Wednesday, May 2nd : one prohibiting the movement of animals from the county of Middlesex, and their movement within the county except for immediate slaughter ; another one applying similar restriction as to movement of cattle within the Metropolis ; and a third providing for the slaughter of all cattle sent to the metropolitan market within the market area. These restrictive measures have been rendered necessary by circumstances which have come to the knowledge of the Veterinary Department."

The Committee having heard Professor Brown's report, recommended that the Liverpool show be held at the advertised date.

This report was adopted subject to the proviso contained in the first paragraph of the report of the General Liverpool Committee.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

At a recent meeting of this Society, Mr. Armstrong, Medical Officer of Health, read a second paper on Anthrax, in continuation of that published in the *Veterinary Journal* for March (p. 214). It is as follows :—

"Since the date of the former communication on the outbreak of Charbon in Newcastle there has been no extension of the disease in the borough. Several cases have, however, been reported in the locality from which the hay was derived. Additional information has been gained by visiting the spot, as well as by referring to authorities on the literature of the subject; and questions of pathological import have presented themselves in the course of the inquiry, which may not be without interest and use to the Society.

"With respect to the extent of the epizoöty in the surrounding district, where it is thought to have originated,—of the places visited, at one farm the loss has amounted to eight cows, four horses, and two sheep ; at another to five cows and two horses ; at a third to three cows. These deaths by no means represent the entire mortality.

"An apparently new feature in the epizoöty is the conveyance of the disease by means of turnips. At the place where the three cows died, the cattle in the byre had been fed for four or five weeks—and, so far as could be ascertained, without ill effect—on turnips grown in a certain field on a neighbouring farm where the disease had been prevalent. A fresh supply of turnips was then carted from a different field on the same farm, some of which were given to the cattle ; and next night one of the cows took ill of Charbonous Fever, and was killed on the following day, being at the point of death. Within four days two other cows were slaughtered on account of the same disease.

"It is a question whether the turnips in this case were organically affected by the land on which they were grown, or whether they were merely vehicles of contagium. As Splenic Fever had been for some time, and at the same date in question was still, prevalent at the farm on which they were grown, the turnips may have been manured with infected dung, or the cart in which they were conveyed may have been previously used for the removal of offal of diseased animals. The grower of the turnips grants that the dung of the affected cattle was used for manure, but states that it was not applied to the turnip land. He states also that the cart used for the removal of the offal was not employed for the carting of the turnips to his neighbour. There is, therefore, no proof of either hypothesis as to the turnips being media of contagium. There appears to be no doubt, however, that they were concerned in its spread.

"On being asked whether he had ever lost any stock by sudden death before what is considered the beginning of the present outbreak—namely, last spring,—the grower of the turnips stated that a year past Martinmas a heifer was found dead in the field, but from what cause he could not tell. At a neighbouring farm (that on which the hay, already referred to, was grown) it was ascertained that a cow died last year. The cause was not recognised at the time, but the symptoms corresponded somewhat with those of cattle afterwards dying of Splenic Fever. Neither of the two last cases are included in the deaths of the present outbreak.

"Part of the land of the last-mentioned farm consists of swampy haughs

at a height of from sixteen to eighteen feet above sea level. A channel of stagnant water, spreading here and there into expansive pools, and coated with duckweed and scum, extends across one of the fields, upon which it is said to be dammed back by the rising tide. The grass of the other parts of this field is rank, tufty, coarse, readily uprooted, and in some places almost rotting on the ground. The channel, to which horses and cattle have access, is said to receive sewage among its contents. Bordering other adjoining fields is a deep gutter of dirty-looking liquid, which was stated to be the sewage of a neighbouring village, and whose banks afford a final resting-place to the decomposing bodies of numerous quadrupeds that have perished beneath its waters.

"It should be stated that very much of the other land in the locality lies also at so low a level as to render proper drainage impossible.

"The common opinion of the owners of stock affected by the disease appears to have been that the animals were poisoned, in the ordinary acceptation of the word; and several analyses of the viscera and contents of stomach of the animals have consequently been made, but, as may be surmised, without throwing any light on the subject.

"The strictly accurate term 'blood poisoning,' used by some veterinary surgeons in speaking of the disease, appears to have confirmed this belief. The bailiff of the farm on which the suspected crop was grown at first held the general view, and could not think the hay would carry the disease by *infection*, although he could give no other reason for his stock having suffered severely, and notwithstanding the knowledge that some of his own cattle had eaten it with impunity after it had been steamed. On our second visit, some weeks afterwards, and subsequently on a third, at which Mr. C. Stephenson was present, the bailiff acknowledged himself unable to resist the force of evidence—the disease appearing to him to have followed the hay wherever it had been used for food, and he admitted his belief that this had been the cause of all the mischief.

"Whilst, as stated in the former paper, the idea of poison by human agency was shared by the owners of affected stock in Newcastle—and by some this idea was tenaciously adhered to (the symptoms and course of the cases being beyond the range of their experience as a disease)—there was no hesitation on the part of these owners in accepting the hay as intimately associated with the death of their animals.

"In speaking of the land of one of the farms, allusion has been made to the sewage which is said to find its way there. Without intending to convey that the present epizoöty is due to sewage—of which there is no proof—it is probably not erroneous to assume that if soil become saturated, grass tainted, or water polluted with this liquid, cattle feeding on that grass or drinking that water will be liable to different forms of zymotic disease, of which Charbon may be one. In this, no reflection is intended against sewage farms, for it is only just to allow that land carefully irrigated by a limited supply of sewage is one thing, and land swamped with it is another.

"Samples of the hay are submitted. That marked A is very coarse and straw-like. The other samples are finer. That marked B was sold to a Newcastle dairyman by the foreman of the farm above-mentioned. The samples A, C, and D, were all supplied by a hay-dealer who is known to have bought hay in considerable quantity from the same farm. The sample D—which resembles that of B—was said by the dealer to have been brought from Carlisle, but this may have been after the local growth became suspected. If the above statement be correct, there may still be ground for suspicion against the hay, as there has been a recent outbreak of Splenic Fever in Cumberland, and the produce of the infected land would be likely

to find its way to the Carlisle market.* The outbreak in Cumberland is reported in the *Journal of the Agricultural Society*, vol. xii., second series.

"No further cases of extension of Splenic Fever to the human subject have come under observation.

"Whilst pursuing the investigation in the country, we were told that a butcher had got poisoned in the arm after opening one of the diseased carcases. The medical attendant, to whom we wrote, considered the case one of Phlegmonous Erysipelas.

"The hand of a Newcastle cowkeeper was bitten in an attempt to extract a supposed turnip from a diseased animal's throat. The wounds, though ugly, healed without any ill result. The fingers of the cowkeeper's wife, who administered the medicines to the cows, were affected by an ecthymatous-looking eruption, which she attributed to the saliva of the cattle. The cuticle afterwards peeled off, but no constitutional symptoms appeared.

"The foregoing constitute the chief points of information gathered on the recent outbreak in this district since the date of the previous paper.

"Writers on the subject of Charbon dwell on the virulence of the contagium; and its prolonged vitality even after what would, for other zymotic diseases, be considered disinfection. The "Dictionnaire des Sciences Medicales" (A.D. 1820), in the library, under the head *Pustule Maligne*, states that the principle of contagium clings with almost indestructible tenacity to the skin and hair of diseased animals, even after processes of manufacture or many years' use, as furniture, etc. Insects may carry it.

"Bollinger (article *Anthrax* in Ziemssen's "Cyclopædia of the Practice of Medicine," vol. iii., English translation) says:—'The tenacity of the Anthrax poison—bacteria—is very great. In the dried state the bacteria are able to preserve their virulence during months, and even many years. Davaine succeeded in producing Anthrax by inoculation of dried Anthrax blood twenty-two months old. Einike relates the following case as very well illustrating the virulence and tenacity of the poison:—The skin of an ox (from whose flesh two horses got Carbuncle), which died of Anthrax in the fall of 1852, was soaked in the following spring in the water of a pond, and then made up by a saddler into harness. The saddler got Carbuncle. From a flock of sheep which were washed in the pond four weeks later, twenty perished in a few days of Anthrax; and both of the horses (for whom the new harness was made), after they had worn it for a few days, died of the disease in forty-eight hours.'

"The following are extracts from the same article:—The infectious material is there described as consisting of a vegetable parasite. The disease is stated not to be contagious in the ordinary sense of the term. The poison is, however, highly transmissible, and though a fixed one, may be diffused through the air, and most often enters the body by the lungs.

"Pasteur concluded that the life of the bacteria depended on the presence of oxygen. By the action of the *Schizo-mycetes* (bacteria and vibriones) a rapid oxidation takes place in organic bodies, the products of which are oxygen and carbonic acid, etc. The oxygen, of which these fungi absorb a considerable quantity in this process, is got from the air (when it reaches them), otherwise from the organic substance itself. Hoffmann and Cohn prove that the life of the bacteria depends on oxygen, which they greedily absorb. Davaine found that by sealing up Anthrax blood in five glass tubes, to the entire exclusion of air and consequently of oxygen, the bacteria died in a few days, and inoculation with such blood would not produce Anthrax.

"Bollinger believes that he has proved that bacteria, by rapid increase in the blood, by their need for and chemical affinity for oxygen, take it away

* See Professor Walley's paper in the *Veterinary Journal* for May.

from the red corpuscles, and considers many of the symptoms of Anthrax as merely signs of poisoning by carbonic acid in the blood.

"It has been suggested that there is no proof of the case of human disease recorded in the former paper being one of Splenic Fever. The symptoms as already described, however, correspond so closely with the following description by Bollinger, that, short of a *post-mortem* examination, stronger proof could not well be expected :—

"*Symptoms of Intestinal Anthrax in Man.*—'The symptoms often first appear as debility and depression, with pains in the limbs, a general sense of malaise, pains in the head, dizziness, ringing in the ears, followed very soon by disturbances in the alimentary canal. The patients complain of loss of appetite and gastralgia ; there is moderate swelling of the belly, and, in many cases, a slight difficulty of swallowing. With an increase of the general symptoms, vomiting commonly sets in, followed by a painless, moderate, or more or less intense, often bloody, Diarrhœa, whereby, in very acute cases, the patients very quickly fall into a Cholera-like collapse. As a rule, also, there are present difficulty of breathing, cyanosis, great restlessness, excitement or somnolence, loss of consciousness ; or the patients are fully conscious, and only complain of great pain in the head, or a moderate, sometimes colicky, pain in the belly. The breathing is difficult and accelerated ; the pulse small and frequent ; the temperature very slightly elevated in those cases where the thermometer was used. In several cases epileptiform convulsions were observed, tetanic spasims of the upper extremities, *opisthotonos*, and great dilatation of the pupils. In one case (E. Wagner) the course was irregularly intermittent. Localizations of the disease are frequently found in the integument in the shape of little carbuncles, a diffuse phlegmon or gangrene. On the mucous membranes of the cavities of the mouth and nose bloody suffusions and hæmorrhagic collections are seen. There is a continued bleeding from the mouth, and the escaped blood shows a lack of power of coagulating. In the cases thus far observed, with one exception (case of Leube), the termination was always fatal, either within the first twenty-four hours, or after two, three, five, or seven days, with symptoms of cyanosis, asphyxia, and the most extreme collapse.'

"Since the reading of the former paper, it has been suggested that the idea of bacteria in the blood is an exploded one, and that the supposed organisms are shreds of tissue, etc. On this point I ask leave again to quote Bollinger, who remarks that since 1855 these bodies have been considered by various observers as bits of fibrin, shreds of tissue, blood crystals, etc. Davaine, in 1863, pronounced them bacteria, after which there was much confusion as to these and other bodies found in the blood. This confusion, says Bollinger, has been set at rest by microscopical and experimental proof.

"In the course of the inquiry, certain matters have appeared to the writer to be worthy of further investigation ; indeed, in passing, the study of the general pathology of the lower animals is a subject of much importance to the human race, and from the comparative facilities for its prosecution, should be one of the greatest interest to the medical profession.

"Perhaps one of the most striking of these matters is the difference of fluidity of the blood in different parts of the same diseased body—that in and near the heart being thin and watery, that in the spleen thick and tarry. The same conditions, but in less marked degree, occur in other human zymotic diseases, but chiefly in Typhus. Another point of resemblance between Typhus and Splenic Fever, and one probably also depending on the same cause, is the occurrence of vibices and petechiæ, whose number, depth of colour, and extent appear to be in relation to the severity of the case in both diseases. In Malignant Pustule, at the second or third

day, bacteria are said by Bollinger to be found chiefly near the centre of the tumour, and in little groups, afterwards spreading outwards to the entire organism. Whether the same grouping of bacteria exists in the blood of Splenic Fever and Typhus, and if so, whether the bacteria, by their affinity for oxygen, break up the fibrin of the blood, and so cause its greater fluidity in certain places, are questions for solution. The observed cases of Charbonous Fever in man have differed widely from human Typhus in general symptoms, but the appearance of the blood in one disease resembles that in the other.

"Charbonous Fever also resembles the petechial and hæmorrhagic forms of Malignant Smallpox, in which the fluidity and tendency to extravasation of the blood is remarkable—weals and petechiæ being prominent symptoms in the former, and sanguineous oozing from all the mucous surfaces the chief sign in the latter.

"From what has been said as to the vitality of the Charbon virus, it can scarcely be expected that we have seen the last of the epizoöty in this neighbourhood. If Continental experience be paralleled by the present case, we may have a recurrence of the disease from time to time, or even the establishment of a confirmed Charbon district."

CLINICAL SOCIETY OF LONDON.

Rare Eruption on the Arms, the Result of Infection from a Horse.

Mr. Morrant Baker exhibited for Mr. Langton, who was unable to be present, a patient with a rare eruption on both forearms, simulating Vaccinia. There were twelve large vesicles on one arm and seven on the other, besides one on the back of the hand. Excepting their large size, and the comparative absence of local inflammation, there was nothing to distinguish them from vesicles resulting from vaccination. There was now no constitutional disturbance, although soon after the eruption first appeared there were pains in the head and limbs, and some feverishness. The patient was a healthy man, twenty-two years old, a groom, who eleven days before began to tend a horse suffering from inflammation of the legs and cracked heels. On the following day he noticed on both arms, at a place where the skin was chapped, several red pimples; and these gradually developed until they assumed the appearance of mature vaccine vesicles. On the seventh day of the eruption the patient came to St. Bartholomew's Hospital, and was admitted, in order that the case might be watched. No fresh symptoms, however, appeared; and now, on the tenth day, the eruption was subsiding exactly like Vaccinia of a similar age. There could be little doubt that the case was one of infection from a horse suffering from the disease which was described by Jenner as the "Grease," and which, when transplanted to the cow, developed further as Cow-pox. The patient had been exposed to no other likely source of infection; and the appearance of the disease was identical with that delineated by Jenner in his work on the Cow-pox as produced on a child's arm by inoculation from the hand of a man who had become diseased in consequence of dressing a mare's leg affected by the Grease. The patient had been vaccinated in infancy, and bore good scars. A drawing of the disease as it appeared on the seventh day of the eruption was also exhibited.*

* There is nothing very unusual in this case. It is well known that Horse-pox is transmissible to mankind, and we have so stated in "Veterinary Sanitary Science and Police," and given our personal experience. Quite recently the disease prevailed extensively among horses at Montreal, and Professor McEachran reports several instances of people being infected.

The PRESIDENT had seen such cases but very rarely.

Dr. SOUTHEY had never seen such a case in the Skin Department of St. Bartholomew's Hospital. The man's axillary glands were enlarged.

Dr. DYCE DUCKWORTH said the vesicles were quite characteristic when first seen. It was curious that ordinary Vaccinia did not protect from this.

Dr. GREENHOW remarked on the fever which accompanied Vaccinia direct from the heifer.

THE CONTAGIOUS DISEASES (ANIMALS') ACT, 1869.

THE Privy Council have appointed George Wentworth, M.R.C.V.S., to be an inspector for the purposes of the above-mentioned Act. Frederick Keal, M.R.C.V.S., has ceased to be an inspector.

Army Veterinary Department.

Gazette, May 1.

LANARKSHIRE YEOMANRY CAVALRY.—W. Boyle, gent., to be Acting Veterinary-Surg., *vice* W. Cockburn, deceased.

Veterinary-Surg. S. R. Sartin, R.A., proceeds to Kamptee, to take charge of R.A. at that place.

Veterinary-Surg. M. Anderson assumes charge of the 4th Light Cavalry.

Veterinary-Surg. M. C. Mitchell, R.H.A., has leave for four months on medical certificate.

Veterinary-Surg. J. Hammond, R.A., has leave to Bombay to appear before a Medical Board.

THE Government of India have revised the rules for allotting and casting horses. The following are the leading features of the new system :—

1. Every remount selected and allotted by a committee appointed for the purpose must be accepted ; no appeal being allowed, except to the annual casting committees in the following season, when the horses will have had a trial.

2. The horses are to be divided into four classes, and the selections of each class to be made in the following order :—

(1.) Such as are fit for Horse Artillery.
(2.) ,, ,, Field ,,
(3.) ,, ,, Medium Cavalry.
(4.) ,, ,, Hussars.

3. Officers of the different branches are not to choose horses individually and in succession ; the horses are first to be declared fit for the service by the general sense of the Committee, and all such as are pronounced serviceable are to be selected, whether perfectly sound or not.

4. The remounts are to be selected with reference to their qualifications for the different branches of the service, and not on account of their value.

5. Committees are not to reject a remount unless clearly unfit, from his general character, for the public service, even although he may not be considered a perfectly sound horse.

6. Horses the property of Government, whether belonging to artillery, British or native cavalry, supposed to be infectiously diseased, are to be

removed out of the cantonments, and the officer commanding the station is to assemble a committee, attended if possible by a veterinary surgeon, to inspect the horses; and if in their opinion the disease is of an infectious nature, the horse is to be destroyed at once. The clothing of the attendants is not to be destroyed, but submitted to the boiling process, as described for Small-pox and Cholera clothing.

7. At all stations where Glanders and Farcy, or other infectious diseases, have shown themselves, the cattle are to be carefully examined at least twice a month, until every trace of disease has disappeared.

Casting Rules.

1. The annual casting committees of the Upper and Lower Circles respectively will be presided over by the Director of Army Remount Operations in alternate years, and by an officer nominated by the Commander-in-chief, assisted by, in the former case, an officer selected by His Excellency, and in the latter a stud officer named by the Director of Army Remount Operations, with the Inspecting Veterinary Surgeon of each circle as member.

2. In emergent cases special casting committees may be assembled at other times; but, as a rule, horses are only to be cast once a year.

3. The maximum of casting is not to exceed nine per cent.

4. Certified full copies from the "Record of Treatment" must accompany all veterinary cases.

5. The term "old and worn out" is not to be used for horses proposed to be cast, if under sixteen years of age.

Horses over that age may be cast on that account, provided the veterinary report certifies to their being worn out.

6. Horses may be sent to reserve depôts for change of air and rest, but are to be at the same time retained on the strength of their respective batteries or regiments.

7. Cast mares under fifteen years of age, and recommended by the Committee for breeding purposes, are not to be sold, but to be sent to the various breeding centres.

Obituary.

With deep regret we announce the death of Staff Veterinary Surgeon W. Partridge, which mournful event took place on April 26th, in the forty-sixth year of his age. Our deceased colleague graduated in May, 1853, and was gazetted to the army in November, 1854. In June, 1862, he was promoted to the rank of First Class, and in October, 1871, to that of Staff Veterinary Surgeon. In July, 1875, he was placed on half-pay by recommendation of a Medical Board, and was on half-pay at the time of his death. Mr. Partridge served in the Crimea from February 1855 to the end of the Russian war, and received the medals given on that occasion. With the 17th Lancers he went through the whole of the Central Indian Campaign during the Mutiny in 1857; and in 1867 he was employed at Alicante, in Spain, purchasing mules for the Abyssinian Expedition, and received the thanks of H.R.H. the Commander-in-Chief and Secretary of State for War for the manner in which he discharged this duty. During his service in the Crimea, he suffered severely from fever and ague and rheumatism; and towards the termination of the Indian Campaign from dysentery, in addition to rheumatism and fever: so precarious, indeed, was his health at this time, that he was carried

on dhoolies for fourteen days before being admitted into the officers' hospital at Calcutta, whence he was invalided home. The illness thus contracted in the service of his country at most critical periods in its history, laid the foundation for a bad state of health, which continued with slight intermissions, though always increasing in seriousness, until he finally succumbed. Mr. Partridge's professional abilities were of a very high order, and but for his broken-down health—due to the hardships of war in foreign climates—he would have done much to promote his calling. Of his gallantry in the field there can be no question; and on one occasion, during a cavalry skirmish at Kertch, he saved the life of a soldier of the 10th Hussars, who was struck down by Cossacks, and succeeded in bringing him out safe by means of his own sword. This incident is alluded to in a graphic and spirited description of the encounter, which appeared some time ago in the *Cornhill Magazine*. Had his bravery on this occasion been represented, there can scarcely be a doubt that he would have received the honour of the Victoria Cross. Mr. Partridge has left a wife and young family to deplore his untimely death, and we are sorry to learn that they are badly provided for. The very insufficient remuneration an Army Veterinary Surgeon receives on full pay, and the miserable pittance allowed while on half-pay, leave no margin to provide for the wants of a family in case of death. In such circumstances they need more comfort than mere passive sympathy.

The following deaths have been announced to the Registrar of the Royal College of Veterinary Surgeons:—

	Diploma dated
Mr. Rodney Strutt, Newark, Notts . . .	April 29, 1868
„ Robert Halsall, Southport, Lancashire . .	April 24, 1867
„ Thos. Greaves, jun., Burnley, ditto . .	April 16, 1869
„ Walter F. Russell, Newbury, Berks . .	April 25, 1864
„ Thos. D. Wiltshire, Pontypool, Mon. . .	Sept. 12, 1842
„ Alex. Ellison, Tain, Ross-shire . . .	April 27, 1847
„ James Bowie, Hawick, Roxburghshire . .	May 17, 1854
„ Alex. Stewart, Rothiemay, Banffshire . .	April 25, 1866
„ James Horsburgh, Dalkeith, Edinburgh .	April , 1835
„ John Currie, Caitha, Midlothian . . .	April 20, 1838
„ John Worship Riches, Acle, Norwich . .	April 15, 1840
„ Joseph R. Dobson, Kettering, Northants. .	May 18, 1853

Mr. Joseph Richard Dobson, an author of some repute, was one of those candidates who, in January last, reluctantly declined the honour of election as a primary Fellow of the Royal College of Veterinary Surgeons, in consequence of failing health. He was only forty-seven years of age.

Italian veterinary science has sustained a serious loss by the death of Professor Papa, who died at Turin on February 5th. Papa bore a high character as an advanced student of science in general, but particularly of that which he specially cultivated. He was Secretary-general of the Royal and National Veterinary Society of Italy, and one of its most zealous and devoted members. He was also, for more than twenty-five years, the director of the *Giornale di Medicina Veterinaria Practica e di Zootecnia*, and the author of very many works, some of which have become classical and are of great value. These are chiefly on medicine, surgery, zoötechny, and agriculture. A member of many learned societies, Papa was one of the most renowned and prolific veterinary writers in Italy—a country which could always boast of distinguished veterinarians, but which will greatly mourn its present loss.

Notes and News.

GERMS."—Professor Tyndall occupied the chair at the concluding lecture of Dr. Corfield's course on the laws of health. The subject of the lecture was "Infectious Diseases." Professor Tyndall, in proposing a vote of thanks, paid a high compliment to the lecturer for the thoroughly sound instruction which he had so clearly conveyed. Referring to the cause of the diseases, he said that a close study of the subject, extending now over two years, enabled him to agree entirely with the lecturer in the parallelism throughout which he had declared to exist between the phenomena of these disease-poisons and the phenomena of ordinary putrefaction. Take the case of flies communicating diseases from one person to another: that was exactly paralleled by phenomena in putrefaction. Thus he had chopped up a beefsteak, steeped it in water, raised the temperature a little above the temperature of the blood, poured off the water, filtered it, and got a perfectly clear liquid; but that, placed in a bottle and exposed to the air, began to get more and more turbid, and that turbid liquid, under the microscope, was soon found to be swarming with living organisms. By heating this perfectly clear beef-tea, it would be sterilised, everything being killed which was capable of producing those little organisms which produced the turbidity; or by keeping it perfectly stopped from the air and from coming in contact with any floating particles, it might be preserved for years. He had now some sterilised beef-tea of this sort, which had been preserved for eighteen months, in a state of perfect transparency; but if a fly dipped its foot into an adjacent vessel containing some of the turbid fluid, and then into the transparent fluid, that contact would be sufficient to infect the sterilised fluid—just as a surgeon dipped the point of a lancet into vaccine lymph to vaccinate; and in forty-eight hours the clear liquid would be swarming with these living organisms. In this, as in the case of contagious disease, there was a period of incubation. Referring to another point on which the lecturer had insisted—viz., that there was no power of spontaneous generation of the germs or contagion of diseases—Professor Tyndall said that though at present great names were opposed to that view, he would venture to predict that ten years hence there would be very few great names opposed to the lecturer on that matter. With regard to the power of disease-poisons to be generated in decomposing animal matter, he would say that for the last twenty-one years he had been the habit of visiting the upper Alpine valleys, where among the Swiss châlets there was the most abominable decomposition going on from day to day, and exceedingly bad smells; but there these contagious diseases were entirely unknown. If, however, a person suffering from Typhoid Fever were transported there, it would spread like wild-fire from this infected focus, and the disease would pass through the entire population. He entirely agreed with all that the lecturer had stated as to these diseases "breeding true," for they never found the virus of Small-pox producing Typhoid, or *vice-versa*. The subject was one of the most important which could engage the attention of the scientific physician: indeed, in the whole range of medical art and science, there was not a subject of equal importance. Here, in England, we did not like to be pressed into good behaviour by external influence, and if anything was to come in the way of really great sanitary improvement it would be from the people themselves. Hence, in a people who were jealous of government interference, it was of primary importance that they should be properly instructed.

A BOGUS DIPLOMA MILL.—The Philadelphia Veterinary College of No. 903, Filbert Street, has burst like a beautiful bubble; and the provost, secretary, treasurer, and faculty, represented in the one person of Robert McClure, horse

doctor, are now safely stowed away in a little cell in the county prison. The police authorities have suspected for some time that this "institution" was not granting diplomas "on the square," but on the plan of Dr. Buchanan of the Pine Street Medical College; and so a scheme was incubated to get down to it. A young man named Francis Standin some time ago opened a correspondence with McClure, with a view to the purchase of a diploma, that he might blossom into a full-fledged horse, mule, and—if the occasion required it—cow doctor. He offered to transfer three shares of the Green and Coates Streets Railway Company as the price of the "sheepskin," which hardly met the approval of McClure. He wanted cash. Standin notified the detectives of what he was doing, and wrote to McClure that he would be at his office yesterday with the money, and would expect to receive the diploma. The price hit upon was one hundred and twenty dollars. The money was marked, and the young man saw McClure, who delivered the diploma, which was filled out, sealed and signed with the names of several horse doctors. A few minutes after a Central Station detective walked in and arrested the diploma man. In the office were found several other sheepskins already filled out with the names of those for whom they were intended. One was marked with the price—one hundred dollars. A batch of correspondence was found in the office, showing that McClure had carried on a lucrative business. He was arraigned before Magistrate Pole, at the Central Station, yesterday afternoon, and upon the strength of the above evidence was required to give three thousand dollars' bail for another examination on Tuesday. He subsequently acknowledged that the college is a bogus concern; or, in other words, that he is the college.—*American Paper.*

Ticks in the Horse's Ear.—From the *Pacific Rural Press*, published at San Francisco, we learn that there is a peculiar disease to which horses are liable in some parts of the far west. The malady has hitherto been supposed to be the result of their eating a poisonous plant common in some districts, and known by the Spanish name of "loco weed." A horse suffering from the disease is said to be "locoed." The seat of the affection is supposed to be in the brain. The disease causes the animal to seemingly lose his intelligence, his appetite, and ordinary instincts, grow poor and spiritless, and wander aimlessly about, if permitted to do so. The Visalia *Delta* announces the discovery, by a Mr. Ashton, that an insect which takes possession of the ears of the horse produces the symptoms. A horse suffering from it would hardly permit his head to be touched, but when it came to feeling into his ear, with good sense he showed his master that he was on the right track, by holding still. Here was the secret. One after another Mr. Ashton brought out a sort of bug or ear-tick, with about half a dozen legs. A large number were found in the ears of his horses, which speedily recovered their wonted spirit when relieved of these pests. It is satisfactory to know that several experiments made for an ointment to destroy the vermin resulted in finding that a mixture of one drop of carbolic acid to thirty of sweet oil, mixed and placed in the ear, would immediately kill the ticks without doing injury to the horse. Mr. Ashton's discovery is new—if true!—*The Farmer.*

The Horses of Tartary.—"The country now began to change its snowy aspect, and parti-coloured grasses of various hues dotted the steppes around. The Kirghiz had taken advantage of the more benignant weather, and hundreds of horses were here and there to be seen picking up what they could find. In fact, it is extraordinary how any of these animals manage to exist through the winter months, as the nomads hardly ever feed them with corn—trusting to the slight vegetation which exists beneath the snow. Occasionally the poor beasts perish by thousands. A Tartar who is a rich

man one week may find himself a beggar the next. This comes from the frequent snowstorms, when the thermometer sometimes descends to from 40° to 50° below zero (Fahr.) ; but more often from some slight thaw taking place for perhaps a few hours. This is sufficient to ruin whole districts. The ground becomes covered with an impenetrable coating of ice, and the horses simply die of starvation, not being able to kick away the frozen substance, as they do the snow from the grass beneath their hoofs. No horses which I have ever seen are so hardy as these little animals, which are indigenous to the Kirghiz steppes ; perhaps for the same reason that the Spartans of old excelled all other nations in physical strength—but with this difference: that Nature doles out to the weakly colts the same fate which the Spartan parents apportioned to their sickly offspring. The Kirghiz never clothe their horses, even in the coldest winter. They do not even take the trouble to water them—the snow eaten by the animals supplying this want. Towards the end of the winter months the ribs of the poor beasts almost come through their sides ; but once the snow disappears, and the rich vegetation which replaces it in the early spring comes up, the animals gain flesh and strength, and are capable of performing marches which many people in this country would deem impossible—a ride of a hundred miles not being at all an uncommon occurrence in Tartary. Kirghiz horses are not generally well-shaped, and cannot gallop very fast ; but they can traverse enormous distances without water, forage, or halting. When the natives wish to perform any very long journey, they generally employ two horses ; on one they carry a little water in a skin and some corn, while they ride the other—changing from time to time to ease the animals. . . The Kirghiz do not have their horses shod, except when about to travel over very rocky ground. In winter and in summer the active little animals traverse the deserts, the hoof itself affording ample protection ; and a lame or unsound steed is with them a rarity, while a hundred miles in a day has frequently been accomplished by some of the Kirghiz horsemen. . . We are apt to think very highly of English horses, and deservedly, so far as pace is concerned ; but if it comes to a question of endurance, I much doubt whether our large and well-fed horses could compete with the little half-starved Kirghiz animals. This is a subject which must be borne in mind in the event of future complications in the East."—*Burnaby's "Ride to Khiva."*

Rabies in Australia.—Rabies has not hitherto been met with in Australia. The *Sydney Morning Herald* states that during one of the hottest days of last week, however, a gentleman residing at Darling Point, who owned a valuable and hitherto quiet dog, observed symptoms of madness. The dog attempted to seize and spring upon a female domestic, who was only saved by the owner slamming the door against his entrance. Subsequently he tried to jump a fence and attack his master, but was unequal to the jump, the wall being too high. Having no doubt that it was a case of madness, the owner at once shot the animal. A case of a similar nature was reported in a Victorian paper some time ago. Were these cases of Rabies, or only disease of the brain?

Priests and Doctors in Prussia.—Deaths from Hydrophobia, which have occurred recently in the Prussian-Rhenish province, have called the attention of the Government to the practice, much prevailing there, of having persons who show symptoms of Hydrophobia treated, instead of by a medical man, by a Roman Catholic priest. The consequences have naturally enough and invariably been disastrous to the patients. Another superstition existing in the Rhenish province is the belief that the bite of dogs which have been burned with the Hubertus key can never be dangerous, and this belief is producing a large revenue to a Belgian convent, which sends out emissaries

with Hubertus keys to perform this interesting operation. The Prussian Government has now, in order to prevent further misfortunes, reminded the Roman Catholic clergy of a Government decree, according to which the clerical treatment of persons showing symptoms of Hydrophobia can be commenced only when it has been proved to the priestly operator that the person bitten is already under medical treatment.

Correspondence.

THE CHAIN SAW IN VETERINARY OBSTETRICS.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—Had I supposed that you would have published my letter of the 4th ult., I would have been more explicit.

The chain saw I used is twelve inches long, and composed of segments about a quarter of an inch in length, one-eighth in width, and not quite one-sixth in thickness, and is of French manufacture. Although it answered well in my hands, I think one stronger would be better for veterinary embryotomy. I see by Messrs. Arnold and Son's list they sell a chain saw price 35*s*. If you would kindly inform me whether it is stronger than mine, and if not, whether they could manufacture one, and the price, you will confer a favour on myself and those gentlemen who have written to me respecting the chain saw.

To give further particulars of my case, I may state that I was sent for to attend a mare in labour, and on examination I found the fœtus partly on its side, with the head uppermost, and turned backwards, and the fore-feet protruding through the vulva of the mother. Owing to the great length of the pelvis of the mare, it was decided that it would be impossible to get the head forward for delivery; so I determined, if possible, to divide the neck. I cut through the soft tissues, and was about to pass a cord round the bony cervix to try and dislocate it; but remembering the chain saw in my case, I thought I would try it. So I attached a piece of whipcord, about a yard long, to each end of the saw, and passed it round the neck of the fœtus (owing to the position of the latter, I found there was not any danger of injuring the vagina of the mother), and commenced cutting, and, much to my gratification, I soon divided the bones of the neck. I then proceeded as stated in my last, and although the delivery of the foal reads tolerably easy, veterinary obstetricians will understand the difficulties to be overcome.

As it is necessary to divide the soft tissues before using the saw, I send you the pattern of an instrument I would suggest for that purpose (provided there is not one already made that would answer better), and shall consider it a favour if you will give an opinion upon it for the benefit of myself and brother practitioners. I think that, with a cutting instrument such as I suggest, it would be possible, when required to separate the fore-leg, to pass the knife behind the shoulder, and, with the aid of an assistant, cut the leg completely off. If it would effect this, there could be no doubt of its great service to veterinary surgeons in obstetric practice, as it would prevent that injury to the mother likely to ensue from the present method of tearing off the leg by sheer force. Not wishing to trespass further on your valuable space,

I remain, yours respectfully,

Sleaford, *May* 10*th*, 1877. J. HOOLE.

[With regard to the price of a stronger chain saw than that employed by

Mr. Hoole, we shall probably have something to say next month. We shall also allude to the chain sector; the idea is a good one, and worth carrying into practice. We shall endeavour to get one made, and send it to him for trial.]

CERTIFICATES OF SOUNDNESS.

To the Editor of the VETERINARY JOURNAL.

SIR,—In the course of my experience, I was consulted respecting a horse affected with "String-halt," which I believed had arisen from an injury recently sustained in the hunting field; for the defect had no existence antecedent to the accident, and I was unable to account for it otherwise. Eventually the "String-halt" disappeared with the resolution of the lesion.

The owner was much annoyed, having but a short time previously made the purchaser write, he said, a certificate of soundness. In searching for a cause likely to produce this exalted action, I naturally examined the hocks, and found both unsound from "Spavins"; and hearing that the said certificate bore a date of only six weeks ago, I asked permission to see it. It ran thus:—

"* * * certify that * have this day examined * * * years old, and * *do not detect any unsoundness.*" *

It was no part of my duty to comment upon the possible, not to say probable, existence of the spavins before the purchase, nor is it necessary here to do more than make this casual allusion to that subject, which has really little to do with the point I wish to discuss. I have only to deal with a class of certificate of which the italicized portion of the above furnishes an example—so striking, to my mind, as to draw forth the following observations.

Of all persons a veterinary surgeon is the least likely to meet with the certificates of his brethren, unless litigation or its avoidance be on the *tapis;* and therefore I am debating as to whether the above form is commonly adopted, or invariably evaded. To the latter opinion I incline: because, if the matter be reasoned out, it can scarcely be conceived that a system bound up in so much prevarication would be tolerated by any except the most inexperienced and confiding—certainly not by those who carefully study the inferential meaning of such a certificate. It does not afford the kind of assurance that would induce many to purchase horses for which large sums are demanded.

Moreover, the wording—which, let us presume, is not desired to appear evasive—might be regarded as a very transparent screen to professional short-coming, and, viewed under reflected light, may bear a deeper significance, if not a more disagreeable interpretation, than the utterer would care to have assigned to it.

It is one of those things, the quality and meaning of which must be gauged by the impression created on its non-advocates. They who adopt this shuffling style can, at most, only *hope* that it may meet with the kindliest forbearance at the hands of their clients.

We are not anxious to infer that this class of certificate is insinuative of disingenousness, equivocation, lack of earnestness of purpose, shirking of responsibility, nor that a worse construction could be put upon it. Certainly not; but we cannot blame the mind that reflects in this strain, though they are to be held culpable who provide the matter for such uncongenial thought.

* The italics are my own.

There needs no apology for looking the subject straight in the face, and dealing with it in a radical fashion, and, let us hope, for good.

If a veterinary surgeon *does not detect any unsoundness*, I consider he should feel himself bound to pronounce the animal *sound;* to which rule I would scarcely admit an exception, for it is clear that there is a vast difference between the implication of the one and the concise assurance of the other character of certificate.

The former does not imply soundness, though that may be desired as its purport ; but the latter tersely expresses a freedom from unsoundness, which is what most men wish to be declared before completing a purchase. Again, "I do not detect any unsoundness,"—which may be foolishly regarded by the utterer as a species of professional compromise, whereupon to avoid legal complication and amercement,—infers that the examiner fails to detect something wrong that another person might have discovered immediately before, or may find directly after. It furnishes a loophole for escape in case of emergency, but affords no guarantee to the vendee that his purchase is sound. Hence, he who certifies that he does not detect any unsoundness might discharge his duty towards his client more faithfully.

A horse is either SOUND or he is UNSOUND, and these two words—with or without special or qualificatory remarks—ought to be the hard-and-fast tenor of every certificate.

A man who thoroughly understands his profession, and has no objection to impress the public with that fact, may safely, and will unhesitatingly, state his opinion on these matters in unequivocal terms, avoiding the paralogy of charlatanism ; and having made a conscientious use of qualified ability, will not fear to courteously challenge other opinions on the same subject examined under similar circumstances, nor dread the result.

We do not preach infallibility. Doctors will always differ, as veterinary jurisprudence sadly testifies ; but we do think that when a veterinary surgeon is required to construct a certificate on the results of his own examination, he should feel it incumbent upon himself, as well as his duty towards his client, and an obligation to the profession he represents, to eschew ambiguity and circumvention.

I beg to remain, yours respectfully,

RICHARD POYSER, V.S.,

York. "The Carabineers."

A REMINISCENCE OF THE ANNUAL MEETING, MAY 7, 1877.

To the Editor of the VETERINARY JOURNAL.

SIR,—I have been in a cogitative mood again this year over our annual meeting, and feel irresistibly impelled to pen my thoughts. We found ourselves assembled again in our old close quarters,—no mark of improvement here ; but the report delivered showed most clearly that much had been done since our last assembly, and the thanks of the profession at large are due to the success achieved by our Council under their most excellent chief, our inestimable and disinterested President. And now we have such an incentive for improvement, such laurels to obtain, it will be our own fault if we fail to place ourselves in our true position as medical men of service and importance to the State, and a credit to our country.

When we have done this, the time will come when the State will appreciate our earnestness and feel disposed to tender us that helping hand we so much need to obtain,—the possession of a suitable edifice. Therefore, it now lies with those who cannot help with monetary aid to assist the cause with brain

power. Our Council knew well that to make a start "Quærenda pecunia primum." This they have done as far as they are able in the profession, and now must look for aid outside it.

On the Educational Test a few words may be said. Is it perfectly true that the educational test at present adopted is not sufficient? Every other college in Europe demands more. Here is an extract from a letter by an American gentleman signing himself "Harvard," in the *Spirit of the Times* of April 21st, p. 281, which may interest your readers :—

"I am requested to state to my countrymen the following: They will be allowed to enter the Royal Veterinary School of Prussia on the same terms as German civil students, and must have approximately the same standard of education as is required of both military and civil students, and must bring with them certificates from the proper educational boards in America, which must be undersigned by the American Minister in Berlin.

"The requirements are these: A student must not be less than eighteen years of age; he must be well educated in all English branches (what we call the high-school education), also in mathematics; must be educated in the elements of algebra and geometry (about the same amount as required to enter Harvard or Yale); also elementary botany, physics, and geology; and must besides be acquainted with Latin grammar, and be able to read Latin with some ease; German or French to the same degree will also be required. The school term is not less than three years. As I have said before, the tuition is 100 marks ($25) per year. There has been much discussion about the school term; finally it has been about decided to let it remain at three years, there being so much difference in students' ability. Civil students can study longer, but the limit of study for an army student will, probably, be fixed at four years.

"There is but one examination—that at the end. No matriculatory examination is required; the German students are only taken from certain schools and certain classes, when they must know the above to have the State certificate. It must be further added that, as this admittance of foreigners is a condescension of the Direction here, they are under no obligation to give to such persons the Prussian State diploma, and much depends on the personal character of the student whether he gets it or not.

"Feeling, as I do, an immense responsibility upon myself for the strong stand I have taken as regards veterinary education, it is my duty to my countrymen to say that the Berlin school is not perfect—that its immense excellence is in the manner of education, and the strong theoretical grounds it places one upon for the purpose of carrying on original work, as inferred in my review of the French schools. This school is not, practically, all it should be; the failure is partly a national one, and partly for want of more money each year. This want of practical fitness is, in reality, what belongs to the training-stable part of our knowledge—a failure in horsemanship—and is, to my mind, of little account to an American, and one which his own ready wits will carry him over in a short time in practice; and then he has that which no other school gives him so well—the basis by which he can do something for the future, and for his profession.

"To any of my countrymen who simply desire a fine practical knowledge, with some knowledge of theory, and the best surgical education in the world in our profession, I cordially recommend the school at Lyons, in France, recommended to me by M. Inspector Bouley, as the best of the three French schools. To those who desire perfection, I recommend the three years at Berlin, one year at Lyons, and six months with the English; then they may be sure they are fitted to make educated scientists of themselves."

It certainly appears that a Juvenis of a university would not be a mark too

high to class with the above ; yet with all education sound common sense is most valuable, and when thus properly balanced, our young practitioner will keep himself in a clear atmosphere when in a court or client's study ; or when debating at our meetings it cannot be said that "Quand celui qui écoute n'entend rien, et celui qui parle n'entend plus, c'est 'Metaphysique.'"

With the greatest consideration I pen my thoughts on "Bye-law 50." I do think that members whose career has been one of exemplary conduct as professional men, should be admitted to the Fellowship examination without the matriculation examination, if they have not the certificate of graduation in Arts at a university, "providing" they can produce a certificate of liberal education from some recognised public school ("to be found in Whitaker's Almanac, if you like"). I know that there are many men who, by their gentlemanly professional bearing, integrity, and moral courage, have done more (I say this without fear of offence) to elevate the profession by such deportment in the district wherein they reside, than many primaries selected for their V.P.M.A., "original research," etc. ; and however much an old boy may desire to emulate the young one, he would not like to go in for a matric. exam. with him. Being a public schoolboy myself, I know all about it, and can well remember, in 1849 and 1850, passing a fair and creditable examination ; but I am sure that many questions put and well answered then would go unanswered now. It will be a blessing to rural members when the local authorities cease appointing presumptuous farriers, horse doctors, and cow leeches as inspectors, and I am sorry to know that this is done under our President's nose. I trust the day is not far distant when the educational and scientific acquirements alone will be the passport used to introduce the practitioner to the notice of the country nobility and gentry, and that it will be no longer necessary to seek the post of clerk of the local course, or to be posted up in race meetings, etc., alone, for such introduction.

It will be well for us when the title of "veterinary surgeon" shall be used only by those duly authorised to assume it, and that no ex-coachman or groom shall be permitted so to designate himself. It may be surprising, but it is true, that only a few days since an experienced member of the profession was attending a horse belonging to one of our opulent brewers, when he was asked if he objected to a consultation with another practitioner. He agreed, of course. Judge of his horror and surprise to find the big brewer had one of these pseudo-practitioners in the stable to meet him. I need scarcely add that our member left in disgust.

"And shall be individually known or distinguished by the name or title of Veterinary Surgeon, exclusive of all others," etc.

What does this mean? or is it meaningless? Also, it will, I think, be a mark of no mean advantage when the blacksmith's business is severed from the veterinary medical profession.

I do think that the above tends most seriously to impede us, and to cast very bad influences on our profession.

In conclusion, I was sorry to notice the absence of many old faces, and our worthy veteran the Principal of the Royal Veterinary College. The absence of the former I attributed to our new system of voting, but as to the latter I am at a loss. Nothing should deter those who have the profession at heart :

"No god is absent where calm prudence dwells."

I am, yours,

"ARTEMUS SECUNDUS."

UNQUALIFIED PRACTITIONERS.

To the Editor of the VETERINARY JOURNAL.

SIR,—Having read Sir F. Fitzwygram's speech delivered at the Yorkshire Veterinary Medical Meeting held at Leeds, and published in your April *Journal*, I will, with your permission, make a few observations thereon, in reference to that part of Sir Frederick's speech bearing on the protection clause against unqualified men. In alluding to this subject, he states that the Council withdrew the clause, because their legal adviser told them it could not be granted, as it would interfere with the liberty of the subject. If that is true, how is it that the medical profession already possess such a clause? Further, he states, that the best qualified practitioners do not desire protection. This is contrary to my experience; for I have heard some of the most eminent men in the profession regret, over and over again, that we have not protection against quackery, and I have also heard it said by many that they only regretted they were members of the veterinary profession. Sir Frederick likewise asserts that the best men will always have the preference. In that I agree with him; but still, it is well-known that in country districts, to every qualified man there are something like half a dozen quacks. Being surrounded by such gentry, and each one, we will say, only doing a limited amount of business, this must undoubtedly tend to fret away the veterinary surgeon's income, although he does not have the preference. It is to be apprehended that Sir Frederick is not aware of the many drawbacks country veterinary surgeons have to contend with.

During the last ten years, within eight or nine miles of my place of business, no less than *five* self-made "veterinary surgeons" have sprung into existence—one a grocer's assistant who had lost his character, two castrators of pigs, another a low butcher, and the last a retired blacksmith, who signs his name with a cross—certainly great ornaments to the profession, for all of them have assumed the title of Veterinary Surgeon. If I were to enumerate some of the nostrums they employ for the treatment of disease, no doubt many would discredit my statement; therefore I will pass that by. When such a deplorable state of things is known to exist, not only have we reason, for the credit of the profession, as well as in the public interest, to expect protection against such impostors: I have no doubt that if the matter were properly brought before Parliament, the protection clause or an Act would be granted; inasmuch as it would be a benefit to the country, and many valuable animals would be saved thereby. The position of the veterinary surgeon is more unenviable than that of any class of persons; for instance, if even a match-maker finds out an improved method of manufacturing matches, he can patent his discovery and protect himself; but the veterinary surgeon, after years of study and spending a little fortune in gaining his diploma, is not much better off than the groom who may come next door and set himself up, with a large sign "Mr. So-and-so, Veterinary Surgeon." And against such an upstart there is no remedy. I knew, a few years ago, one of these impostors placing after his name the letters M.R.C.V.S. Incredible as it may appear, yet I am satisfied that many other members of the profession could record similar cases. I believe I have written enough to convince every one that a protection clause is indispensable; though I could say a great deal more on the subject if time would allow me to do so. However, I may have something further to advance on a future occasion. Apologizing for troubling you,

I am, yours truly,

"BONES."

CORRIGENDA.

With regard to the list of students who passed the examination of the Royal College, and which appeared in the May No. of the *Journal* (p. 378-9), we are requested to state that Mr. Eward Moore's address is 116, Washington Avenue, Albany, U.S.; also that William *Howan* Pringle should read William *Slowan* Pringle.

ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS from Professor Walley, D. S. Brown, G. Fleming, J. B. Martin, W. A. Cox, and others, will appear in our next.

RESPONDIT.—1. The regulations for the Fellowship degree state :—"Each candidate, other than a Professor or ex-Professor at a school affiliated with the Royal College of Veterinary Surgeons, will be required to produce a certificate of graduation in Arts at a University, to be recognised for this purpose by the Council, or a certificate of liberal education after an examination by the College of Preceptors under the direction and supervision of the Council." 2. The person you name is on the register of the Royal College. 3. There are only two *weekly* veterinary periodicals—the *Wochenscrift für Thierheilkunde*, published in Germany, and the *Veterinaria Española*, issued at Madrid. 4. Salicylic acid has been employed in veterinary medicine on the Continent, but we have not heard of its being used in this country.

A VICTIM draws attention to the unscrupulous manner in which purchasers of veterinary practices advertised for sale are often imposed upon by misrepresentations, and suggests that a registry be established where those who have practices to sell, as well as those who wish to purchase, should pay a fee for all information relative to them, and a commission when the purchase is completed.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from A. Sharp, Coleshill; Professor Smith, Toronto; "Bones"; C. Marking, Toppesfield; "Respondit"; Professor McCall; D. S. Brown, Montreal; Professor McEachran, Montreal; Dr. Thin, London; H. E. Armstrong, M.R.C.S., Newcastle-on-Tyne; "Pleximeter"; A. Johnston, Edinburgh; R. Poyser, "The Carabineers," York; J. B. Martin, Rochester; J. Hoole, Sleaford; J. Howard, Woolwich; R. G. Walters, Newport, Salop; J. W. Gloag, Dublin; W. A. Cox, Manchester.

BOOKS: Typhus Contagieux: Recueil des Lois, etc., concerning; *Professor Turner*, General Observations on the Placenta, with especial reference to the Theory of Evolution; *Lanzillotti Buonsanti e G. Pini*, Dizionario dei Termini, etc., delle Scienze Mediche e Veterinarie (fasc. 10, 11); Annual Report of the Veterinary Department of the Privy Council; *G. Thin, M.D.*, An Introduction to Practical Histology; Reports of the Medical Officer of the Privy Council.

JOURNALS: *Archivio di Medicina Veterinaria; American Veterinary Review; Archives Vétérinaire; Revue Vétérinaire; Recueil de Méd. Vétérinaire; Wochenschrift für Thierheilkunde; Live Stock Journal* (American); *Veterinaria Española; Agricultural Students' Gazette; Journal of the National Agricultural Society of Victoria; Annales de Méd. Vétérinaire; Deutsche Zeitschrift für Thiermedicin; Der Thierarzt; Journal de Méd. Vétérinaire et de Zoötechnie; Repertorium der Thierheilkunde.*

NEWSPAPERS: *Farmer; North British Agriculturist; Mark Lane Express; Live Stock Journal; Agricultural Gazette; Country; Field; Bradford Observer; Times; Melbourne Medical Record; Farmer's Gazette; Edinburgh Courant; Scotsman; British Medical Journal; Lancet; Edinburgh Medical Journal; Gloucestershire Standard; Broad Arrow; New York Spirit of the Times; Bell's Weekly Messenger; Irish Times.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.

scrotal sac. The *modus operandi* is somewhat as follows :—The colt is secured and cast in the usual manner, with the exception of having him more securely fastened, and making use of an instrument which keeps the posterior extremities apart. The first animal operated on was a three-year-old colt, the property of Mr. Bodine. There was nothing unusual about this, but the Professor took occasion to explain to those present the proper manner of securing and casting had the animal been what is called a "ridgling," or original—*i.e.*, an animal in which only one testicle has descended. The operation was performed in about thirty seconds, and was considered by those present to be a piece of most superior professional workmanship. We then drove to the extensive stock farm of Mr. Vanwyck, where, we might say parenthetically, we saw some well-bred stock, which combined power, strength, and speed. Here the operation was to be performed. We were shown a superior two-year-old colt, on which the operator was to exhibit the wonders of his art ; and to all who witnessed the performance it was somewhat novel to see the hidden testicle dislodged ; but to the man of steel it was everyday work, he being not at all excited, but going about it in a methodical and business-like fashion. After casting the animal in a manner we cannot describe, on account of there being such a plexus of ropes, he proceeded to make a longitudinal incision into the scrotum, not exactly in the centre, but which would have been had the second testicle descended to the natural position ; but this was hidden, and to many seemed apparently out of reach. The Professor, however, evinced no surprise at its being *non est*, but secured it inside of twenty seconds, and with the aid of that admirable instrument, the écraseur (which, by the way, he has considerably improved) succeeded in removing it with scarcely any pain. Another feature worth mentioning was, immediately after the operation had been performed and the shackles removed, the animal sprang to his feet, and, strange as it may appear, there was little or no hæmorrhage during the entire transaction. Dr. Miller, of Heightstown, N.J., rendered the Professor valuable assistance during the performance. The veterinary and medical professions were well represented, and connoisseurs did not fail to bestow high encomiums on the worthy operator, seeming highly pleased with what they had seen. Had time permitted, Veterinary Surgeon E. Waters would have kindly supplied a mare, so that the old gentleman might show his proficiency in spaying. We would say, in conclusion, that the operations were satisfactorily, scientifically, and expeditiously performed; therefore we have great pleasure in giving him our hearty support and approbation."

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